



MECH-113A

**KINKING OF A CRACK OUT OF AN INTERFACE:
TABULATED SOLUTION COEFFICIENTS**

Ming-Yuan He and John W. Hutchinson

(A limited circulation Appendix to the paper "Kinking of a Crack Out of an Interface" to be published in the *Journal of Applied Mechanics* in 1989, and issued originally as Harvard University Report MECH-113, February 1988)

SIGN CORRECTIONS: There were errors in the signs of the second and fourth coefficients in the columns on the right hand side of the original tables for c_i & d_i . These errors have been corrected. We are indebted to the authors of the following publication for calling this to our attention. Noijen, S. P. M., van der Sluis, O., Timmermans, P. H. M., *Eng. Fract. Mech.* 83, 8–25, 2012.

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KINKING OF A CRACK OUT OF AN INTERFACE

TABULATED SOLUTION COEFFICIENTS

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The analysis and discussion of the title problem was given in the companion paper by He and Hutchinson (1989). In this Appendix the numerical results will be tabulated. The geometry analyzed is shown in Fig. 1 of the companion paper. The semi-infinite interface crack lies on the interface between two semi-infinite blocks of isotropic elastic solids with differing elastic moduli. A straight crack segment of length a and angle ω (positive clockwise) kinks downward into material 2. The relationship between the intensity factors of the kinked crack $K_I + iK_{II}$ and the prescribed complex interface intensity factor $K = K_I + iK_2$ specifying the remote field is

$$K_I + iK_{II} = c(\omega, \alpha, \beta)Ka^{ie} + \bar{d}(\omega, \alpha, \beta)\bar{K}a^{-ie} \quad (1)$$

where $\bar{(\)}$ denotes complex conjugation and $c = c_r + ic_i$ and $d = d_r + id_i$ are complex-valued functions of ω, α, β . In the above, α and β are the two non-dimensional material moduli parameters introduced by Dundurs which in plane strain are

$$\alpha = [G_1(1-\nu_2) - G_2(1-\nu_1)]/[G_1(1-\nu_2) + G_2(1-\nu_1)] \quad (2)$$

$$\beta = \frac{1}{2} [G_1(1-2\nu_2) - G_2(1-2\nu_1)]/[G_1(1-\nu_2) + G_2(1-\nu_1)] \quad (3)$$

where G and ν are the shear modulus and Poisson's ratio and the subscript identifies the material as indicated in Fig. 1 of the companion paper.

Reference:

He, M-Y. and Hutchinson, J. W. (1989) "Kinking of a Crack Out of an Interface", to be published in the Journal of Applied Mechanics. Originally issued as Harvard University Report MECH-113, February 1988.

* Visiting Scholar, Harvard University, August 1987-August 1988

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| $\alpha = 0.25$ | $\beta = 0$ | 6 |
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| $\alpha = 0.75$ | $\beta = 0$ | 14 |
| $\alpha = -0.25$ | $\beta = 0$ | 6 |
| $\alpha = -0.5$ | $\beta = 0$ | 10 |
| $\alpha = -0.6$ | $\beta = 0$ | 18 |
| $\alpha = -0.65$ | $\beta = 0$ | 18 |
| $\alpha = -0.67$ | $\beta = 0$ | 22 |
| $\alpha = -0.70$ | $\beta = 0$ | 22 |
| $\alpha = -0.75$ | $\beta = 0$ | 14 |
| $\alpha = 0$ | $\beta = 0.25$ | 26 |
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| $\alpha = -0.75$ | $\beta = 0.063$ | 50 |
| $\alpha = 0.80$ | $\beta = 0.45$ | 2 |

| $\alpha = 0, \beta = 0$ | | | | | $\alpha = 0.800, \beta = 0.450$ | | | | |
|-------------------------|-------|--------|-------|--------|---------------------------------|--------|--------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.994 | -0.104 | 0.002 | -0.052 | 0.64 | 0.281 | -0.018 | -0.02 | 6 |
| 7 | 0.991 | -0.122 | 0.003 | -0.061 | 0.655 | 0.255 | -0.021 | -0.024 | 7 |
| 8 | 0.989 | -0.139 | 0.004 | -0.069 | 0.668 | 0.23 | -0.023 | -0.028 | 8 |
| 9 | 0.986 | -0.156 | 0.005 | -0.078 | 0.679 | 0.205 | -0.024 | -0.032 | 9 |
| 10 | 0.982 | -0.173 | 0.006 | -0.087 | 0.688 | 0.182 | -0.026 | -0.036 | 10 |
| 11 | 0.979 | -0.19 | 0.007 | -0.095 | 0.697 | 0.159 | -0.028 | -0.04 | 11 |
| 12 | 0.975 | -0.207 | 0.009 | -0.104 | 0.704 | 0.137 | -0.029 | -0.045 | 12 |
| 13 | 0.97 | -0.224 | 0.01 | -0.112 | 0.711 | 0.115 | -0.03 | -0.049 | 13 |
| 14 | 0.966 | -0.24 | 0.012 | -0.12 | 0.716 | 0.093 | -0.032 | -0.053 | 14 |
| 15 | 0.961 | -0.257 | 0.014 | -0.129 | 0.721 | 0.072 | -0.033 | -0.058 | 15 |
| 16 | 0.955 | -0.273 | 0.016 | -0.137 | 0.724 | 0.051 | -0.034 | -0.062 | 16 |
| 17 | 0.95 | -0.289 | 0.018 | -0.145 | 0.727 | 0.031 | -0.034 | -0.067 | 17 |
| 18 | 0.944 | -0.306 | 0.02 | -0.153 | 0.73 | 0.011 | -0.035 | -0.072 | 18 |
| 19 | 0.937 | -0.321 | 0.022 | -0.161 | 0.731 | -0.009 | -0.036 | -0.076 | 19 |
| 20 | 0.931 | -0.337 | 0.024 | -0.169 | 0.732 | -0.029 | -0.036 | -0.081 | 20 |
| 21 | 0.924 | -0.353 | 0.027 | -0.177 | 0.733 | -0.048 | -0.036 | -0.085 | 21 |
| 22 | 0.917 | -0.368 | 0.029 | -0.185 | 0.733 | -0.067 | -0.037 | -0.09 | 22 |
| 23 | 0.909 | -0.384 | 0.032 | -0.193 | 0.732 | -0.086 | -0.037 | -0.095 | 23 |
| 24 | 0.901 | -0.399 | 0.035 | -0.201 | 0.73 | -0.104 | -0.037 | -0.1 | 24 |
| 25 | 0.893 | -0.414 | 0.037 | -0.208 | 0.729 | -0.123 | -0.037 | -0.104 | 25 |
| 26 | 0.885 | -0.428 | 0.04 | -0.216 | 0.726 | -0.141 | -0.037 | -0.109 | 26 |
| 27 | 0.876 | -0.443 | 0.043 | -0.223 | 0.723 | -0.158 | -0.037 | -0.114 | 27 |
| 28 | 0.867 | -0.457 | 0.046 | -0.23 | 0.72 | -0.176 | -0.036 | -0.118 | 28 |
| 29 | 0.858 | -0.471 | 0.05 | -0.238 | 0.716 | -0.193 | -0.036 | -0.123 | 29 |
| 30 | 0.849 | -0.485 | 0.053 | -0.245 | 0.712 | -0.21 | -0.035 | -0.128 | 30 |
| 31 | 0.839 | -0.498 | 0.056 | -0.252 | 0.708 | -0.227 | -0.035 | -0.133 | 31 |
| 32 | 0.829 | -0.511 | 0.06 | -0.258 | 0.702 | -0.243 | -0.034 | -0.137 | 32 |
| 33 | 0.819 | -0.525 | 0.063 | -0.265 | 0.697 | -0.259 | -0.033 | -0.142 | 33 |
| 34 | 0.809 | -0.537 | 0.067 | -0.272 | 0.691 | -0.275 | -0.032 | -0.147 | 34 |
| 35 | 0.798 | -0.55 | 0.07 | -0.278 | 0.685 | -0.29 | -0.031 | -0.151 | 35 |
| 36 | 0.787 | -0.562 | 0.074 | -0.285 | 0.678 | -0.306 | -0.03 | -0.156 | 36 |
| 37 | 0.776 | -0.574 | 0.078 | -0.291 | 0.671 | -0.321 | -0.029 | -0.16 | 37 |
| 38 | 0.765 | -0.586 | 0.082 | -0.297 | 0.664 | -0.335 | -0.028 | -0.165 | 38 |
| 39 | 0.754 | -0.597 | 0.086 | -0.304 | 0.656 | -0.349 | -0.027 | -0.169 | 39 |
| 40 | 0.742 | -0.608 | 0.09 | -0.309 | 0.648 | -0.363 | -0.025 | -0.174 | 40 |

| $\alpha = 0, \beta = 0$ | | | | | $\alpha = 0.800, \beta = 0.450$ | | | | |
|-------------------------|-------|--------|-------|--------|---------------------------------|--------|--------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.73 | -0.619 | 0.094 | -0.315 | 0.64 | -0.377 | -0.024 | -0.178 | 41 |
| 42 | 0.718 | -0.63 | 0.098 | -0.321 | 0.631 | -0.391 | -0.022 | -0.183 | 42 |
| 43 | 0.706 | -0.64 | 0.102 | -0.326 | 0.623 | -0.404 | -0.021 | -0.187 | 43 |
| 44 | 0.694 | -0.65 | 0.106 | -0.332 | 0.613 | -0.416 | -0.019 | -0.192 | 44 |
| 45 | 0.681 | -0.66 | 0.11 | -0.337 | 0.604 | -0.429 | -0.017 | -0.196 | 45 |
| 46 | 0.668 | -0.669 | 0.114 | -0.342 | 0.594 | -0.441 | -0.015 | -0.2 | 46 |
| 47 | 0.656 | -0.678 | 0.119 | -0.347 | 0.584 | -0.452 | -0.013 | -0.204 | 47 |
| 48 | 0.643 | -0.687 | 0.123 | -0.352 | 0.574 | -0.464 | -0.011 | -0.208 | 48 |
| 49 | 0.63 | -0.695 | 0.127 | -0.357 | 0.564 | -0.475 | -0.009 | -0.213 | 49 |
| 50 | 0.617 | -0.703 | 0.132 | -0.361 | 0.553 | -0.485 | -0.007 | -0.217 | 50 |
| 51 | 0.603 | -0.711 | 0.136 | -0.366 | 0.543 | -0.496 | -0.005 | -0.22 | 51 |
| 52 | 0.59 | -0.719 | 0.14 | -0.37 | 0.532 | -0.506 | -0.003 | -0.224 | 52 |
| 53 | 0.577 | -0.726 | 0.145 | -0.374 | 0.521 | -0.515 | 0 | -0.228 | 53 |
| 54 | 0.563 | -0.733 | 0.149 | -0.378 | 0.509 | -0.525 | 0.002 | -0.232 | 54 |
| 55 | 0.55 | -0.739 | 0.154 | -0.382 | 0.498 | -0.534 | 0.005 | -0.236 | 55 |
| 56 | 0.536 | -0.745 | 0.158 | -0.385 | 0.486 | -0.542 | 0.007 | -0.239 | 56 |
| 57 | 0.522 | -0.751 | 0.162 | -0.389 | 0.475 | -0.55 | 0.01 | -0.243 | 57 |
| 58 | 0.508 | -0.757 | 0.167 | -0.392 | 0.463 | -0.558 | 0.012 | -0.247 | 58 |
| 59 | 0.495 | -0.762 | 0.171 | -0.395 | 0.451 | -0.566 | 0.015 | -0.25 | 59 |
| 60 | 0.481 | -0.767 | 0.176 | -0.399 | 0.439 | -0.573 | 0.017 | -0.253 | 60 |
| 61 | 0.467 | -0.771 | 0.18 | -0.402 | 0.427 | -0.58 | 0.02 | -0.256 | 61 |
| 62 | 0.453 | -0.776 | 0.184 | -0.404 | 0.414 | -0.586 | 0.023 | -0.26 | 62 |
| 63 | 0.439 | -0.779 | 0.189 | -0.407 | 0.402 | -0.592 | 0.026 | -0.263 | 63 |
| 64 | 0.425 | -0.783 | 0.193 | -0.409 | 0.39 | -0.598 | 0.029 | -0.266 | 64 |
| 65 | 0.412 | -0.786 | 0.197 | -0.412 | 0.377 | -0.603 | 0.032 | -0.269 | 65 |
| 66 | 0.398 | -0.789 | 0.202 | -0.414 | 0.365 | -0.608 | 0.035 | -0.271 | 66 |
| 67 | 0.384 | -0.792 | 0.206 | -0.416 | 0.352 | -0.613 | 0.038 | -0.274 | 67 |
| 68 | 0.37 | -0.794 | 0.21 | -0.418 | 0.34 | -0.617 | 0.04 | -0.277 | 68 |
| 69 | 0.356 | -0.796 | 0.214 | -0.419 | 0.327 | -0.621 | 0.043 | -0.279 | 69 |
| 70 | 0.343 | -0.798 | 0.218 | -0.421 | 0.315 | -0.625 | 0.047 | -0.282 | 70 |
| 71 | 0.329 | -0.799 | 0.222 | -0.422 | 0.302 | -0.628 | 0.05 | -0.284 | 71 |
| 72 | 0.315 | -0.8 | 0.226 | -0.424 | 0.29 | -0.631 | 0.053 | -0.287 | 72 |
| 73 | 0.302 | -0.801 | 0.23 | -0.425 | 0.277 | -0.634 | 0.056 | -0.289 | 73 |
| 74 | 0.288 | -0.801 | 0.234 | -0.426 | 0.265 | -0.636 | 0.059 | -0.291 | 74 |
| 75 | 0.275 | -0.801 | 0.238 | -0.426 | 0.253 | -0.638 | 0.062 | -0.293 | 75 |

| $\alpha = 0, \beta = 0$ | | | | | $\alpha = 0.800, \beta = 0.450$ | | | | |
|-------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.261 | -0.801 | 0.242 | -0.427 | 0.24 | -0.64 | 0.065 | -0.295 | 76 |
| 77 | 0.248 | -0.8 | 0.245 | -0.427 | 0.228 | -0.641 | 0.068 | -0.297 | 77 |
| 78 | 0.235 | -0.8 | 0.249 | -0.428 | 0.216 | -0.642 | 0.071 | -0.298 | 78 |
| 79 | 0.222 | -0.798 | 0.253 | -0.428 | 0.204 | -0.643 | 0.075 | -0.3 | 79 |
| 80 | 0.209 | -0.797 | 0.256 | -0.428 | 0.191 | -0.644 | 0.078 | -0.302 | 80 |
| 81 | 0.196 | -0.795 | 0.26 | -0.428 | 0.179 | -0.644 | 0.081 | -0.303 | 81 |
| 82 | 0.184 | -0.793 | 0.263 | -0.428 | 0.168 | -0.643 | 0.084 | -0.304 | 82 |
| 83 | 0.171 | -0.791 | 0.266 | -0.428 | 0.156 | -0.643 | 0.087 | -0.305 | 83 |
| 84 | 0.159 | -0.789 | 0.269 | -0.427 | 0.144 | -0.642 | 0.09 | -0.307 | 84 |
| 85 | 0.147 | -0.786 | 0.272 | -0.427 | 0.133 | -0.641 | 0.093 | -0.308 | 85 |
| 86 | 0.134 | -0.783 | 0.275 | -0.426 | 0.121 | -0.64 | 0.096 | -0.308 | 86 |
| 87 | 0.122 | -0.779 | 0.278 | -0.425 | 0.11 | -0.638 | 0.099 | -0.309 | 87 |
| 88 | 0.111 | -0.776 | 0.281 | -0.424 | 0.099 | -0.636 | 0.103 | -0.31 | 88 |
| 89 | 0.099 | -0.772 | 0.284 | -0.423 | 0.088 | -0.634 | 0.106 | -0.311 | 89 |
| 90 | 0.087 | -0.768 | 0.287 | -0.421 | 0.077 | -0.631 | 0.109 | -0.311 | 90 |
| 91 | 0.076 | -0.763 | 0.289 | -0.42 | 0.066 | -0.629 | 0.112 | -0.312 | 91 |
| 92 | 0.065 | -0.759 | 0.292 | -0.419 | 0.055 | -0.626 | 0.114 | -0.312 | 92 |
| 93 | 0.054 | -0.754 | 0.294 | -0.417 | 0.045 | -0.622 | 0.117 | -0.312 | 93 |
| 94 | 0.043 | -0.749 | 0.296 | -0.415 | 0.035 | -0.619 | 0.12 | -0.312 | 94 |
| 95 | 0.033 | -0.744 | 0.298 | -0.413 | 0.025 | -0.615 | 0.123 | -0.312 | 95 |
| 96 | 0.022 | -0.738 | 0.3 | -0.411 | 0.015 | -0.611 | 0.126 | -0.312 | 96 |
| 97 | 0.012 | -0.733 | 0.302 | -0.409 | 0.005 | -0.607 | 0.129 | -0.312 | 97 |
| 98 | 0.002 | -0.727 | 0.304 | -0.407 | -0.004 | -0.603 | 0.131 | -0.312 | 98 |
| 99 | -0.007 | -0.721 | 0.305 | -0.405 | -0.014 | -0.598 | 0.134 | -0.311 | 99 |
| 100 | -0.017 | -0.714 | 0.307 | -0.402 | -0.023 | -0.593 | 0.137 | -0.311 | 100 |
| 101 | -0.026 | -0.708 | 0.308 | -0.4 | -0.032 | -0.588 | 0.139 | -0.31 | 101 |
| 102 | -0.035 | -0.701 | 0.31 | -0.397 | -0.04 | -0.583 | 0.142 | -0.309 | 102 |
| 103 | -0.044 | -0.694 | 0.311 | -0.394 | -0.049 | -0.578 | 0.144 | -0.309 | 103 |
| 104 | -0.053 | -0.687 | 0.312 | -0.392 | -0.057 | -0.572 | 0.146 | -0.308 | 104 |
| 105 | -0.062 | -0.68 | 0.313 | -0.389 | -0.065 | -0.567 | 0.149 | -0.307 | 105 |
| 106 | -0.07 | -0.672 | 0.314 | -0.386 | -0.073 | -0.561 | 0.151 | -0.306 | 106 |
| 107 | -0.078 | -0.665 | 0.314 | -0.383 | -0.081 | -0.555 | 0.153 | -0.304 | 107 |
| 108 | -0.085 | -0.657 | 0.315 | -0.379 | -0.088 | -0.549 | 0.155 | -0.303 | 108 |
| 109 | -0.093 | -0.649 | 0.315 | -0.376 | -0.095 | -0.542 | 0.157 | -0.302 | 109 |
| 110 | -0.1 | -0.641 | 0.316 | -0.373 | -0.102 | -0.536 | 0.159 | -0.3 | 110 |

| $\alpha = 0, \beta = 0$ | | | | | $\alpha = 0.800, \beta = 0.450$ | | | | |
|-------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.107 | -0.633 | 0.316 | -0.369 | -0.109 | -0.529 | 0.161 | -0.299 | 111 |
| 112 | -0.114 | -0.625 | 0.316 | -0.366 | -0.115 | -0.522 | 0.163 | -0.297 | 112 |
| 113 | -0.121 | -0.617 | 0.316 | -0.362 | -0.122 | -0.515 | 0.165 | -0.295 | 113 |
| 114 | -0.127 | -0.608 | 0.315 | -0.358 | -0.128 | -0.508 | 0.166 | -0.293 | 114 |
| 115 | -0.133 | -0.6 | 0.315 | -0.355 | -0.133 | -0.501 | 0.168 | -0.292 | 115 |
| 116 | -0.139 | -0.591 | 0.315 | -0.351 | -0.139 | -0.494 | 0.169 | -0.29 | 116 |
| 117 | -0.145 | -0.582 | 0.314 | -0.347 | -0.144 | -0.487 | 0.171 | -0.287 | 117 |
| 118 | -0.15 | -0.573 | 0.313 | -0.343 | -0.149 | -0.479 | 0.172 | -0.285 | 118 |
| 119 | -0.155 | -0.564 | 0.312 | -0.339 | -0.154 | -0.472 | 0.173 | -0.283 | 119 |
| 120 | -0.16 | -0.555 | 0.311 | -0.335 | -0.159 | -0.464 | 0.174 | -0.281 | 120 |
| 121 | -0.165 | -0.546 | 0.31 | -0.331 | -0.163 | -0.456 | 0.175 | -0.278 | 121 |
| 122 | -0.169 | -0.537 | 0.309 | -0.326 | -0.167 | -0.449 | 0.176 | -0.276 | 122 |
| 123 | -0.173 | -0.528 | 0.308 | -0.322 | -0.171 | -0.441 | 0.177 | -0.273 | 123 |
| 124 | -0.177 | -0.518 | 0.306 | -0.318 | -0.174 | -0.433 | 0.178 | -0.271 | 124 |
| 125 | -0.181 | -0.509 | 0.304 | -0.313 | -0.178 | -0.425 | 0.178 | -0.268 | 125 |
| 126 | -0.184 | -0.5 | 0.303 | -0.309 | -0.181 | -0.417 | 0.179 | -0.265 | 126 |
| 127 | -0.187 | -0.49 | 0.301 | -0.304 | -0.183 | -0.409 | 0.179 | -0.262 | 127 |
| 128 | -0.19 | -0.481 | 0.299 | -0.3 | -0.186 | -0.402 | 0.18 | -0.259 | 128 |
| 129 | -0.193 | -0.471 | 0.296 | -0.295 | -0.188 | -0.394 | 0.18 | -0.256 | 129 |
| 130 | -0.195 | -0.461 | 0.294 | -0.291 | -0.19 | -0.386 | 0.18 | -0.253 | 130 |
| 131 | -0.197 | -0.452 | 0.292 | -0.286 | -0.192 | -0.378 | 0.18 | -0.25 | 131 |
| 132 | -0.199 | -0.442 | 0.289 | -0.281 | -0.194 | -0.37 | 0.179 | -0.247 | 132 |
| 133 | -0.201 | -0.433 | 0.286 | -0.276 | -0.195 | -0.362 | 0.179 | -0.244 | 133 |
| 134 | -0.203 | -0.423 | 0.283 | -0.272 | -0.196 | -0.354 | 0.178 | -0.24 | 134 |
| 135 | -0.204 | -0.414 | 0.28 | -0.267 | -0.197 | -0.347 | 0.177 | -0.237 | 135 |

| $\alpha = 0.25, \beta = 0$ | | | | | $\alpha = -0.25, \beta = 0$ | | | | |
|----------------------------|-------|--------|--------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.908 | -0.064 | -0.012 | -0.047 | 1.111 | -0.163 | 0.029 | -0.057 | 6 |
| 7 | 0.908 | -0.08 | -0.013 | -0.055 | 1.105 | -0.183 | 0.032 | -0.067 | 7 |
| 8 | 0.908 | -0.095 | -0.014 | -0.063 | 1.098 | -0.202 | 0.035 | -0.076 | 8 |
| 9 | 0.908 | -0.111 | -0.014 | -0.071 | 1.092 | -0.221 | 0.038 | -0.085 | 9 |
| 10 | 0.906 | -0.127 | -0.014 | -0.079 | 1.085 | -0.24 | 0.041 | -0.094 | 10 |
| 11 | 0.905 | -0.143 | -0.014 | -0.087 | 1.078 | -0.258 | 0.045 | -0.104 | 11 |
| 12 | 0.903 | -0.159 | -0.014 | -0.095 | 1.07 | -0.276 | 0.048 | -0.113 | 12 |
| 13 | 0.901 | -0.174 | -0.014 | -0.103 | 1.063 | -0.294 | 0.051 | -0.122 | 13 |
| 14 | 0.898 | -0.19 | -0.013 | -0.111 | 1.055 | -0.312 | 0.054 | -0.131 | 14 |
| 15 | 0.895 | -0.206 | -0.012 | -0.118 | 1.047 | -0.33 | 0.057 | -0.14 | 15 |
| 16 | 0.892 | -0.221 | -0.011 | -0.126 | 1.039 | -0.347 | 0.06 | -0.148 | 16 |
| 17 | 0.888 | -0.237 | -0.01 | -0.134 | 1.03 | -0.364 | 0.063 | -0.157 | 17 |
| 18 | 0.884 | -0.252 | -0.009 | -0.142 | 1.022 | -0.381 | 0.066 | -0.166 | 18 |
| 19 | 0.88 | -0.267 | -0.007 | -0.15 | 1.013 | -0.398 | 0.069 | -0.174 | 19 |
| 20 | 0.875 | -0.283 | -0.006 | -0.157 | 1.003 | -0.414 | 0.072 | -0.183 | 20 |
| 21 | 0.87 | -0.298 | -0.004 | -0.165 | 0.994 | -0.43 | 0.076 | -0.191 | 21 |
| 22 | 0.865 | -0.313 | -0.002 | -0.172 | 0.984 | -0.446 | 0.079 | -0.199 | 22 |
| 23 | 0.859 | -0.327 | 0 | -0.18 | 0.974 | -0.462 | 0.082 | -0.207 | 23 |
| 24 | 0.853 | -0.342 | 0.002 | -0.187 | 0.964 | -0.477 | 0.086 | -0.215 | 24 |
| 25 | 0.847 | -0.357 | 0.004 | -0.194 | 0.953 | -0.493 | 0.089 | -0.223 | 25 |
| 26 | 0.84 | -0.371 | 0.007 | -0.202 | 0.943 | -0.508 | 0.093 | -0.231 | 26 |
| 27 | 0.833 | -0.385 | 0.009 | -0.209 | 0.932 | -0.522 | 0.096 | -0.239 | 27 |
| 28 | 0.826 | -0.399 | 0.012 | -0.216 | 0.92 | -0.537 | 0.1 | -0.246 | 28 |
| 29 | 0.818 | -0.413 | 0.014 | -0.223 | 0.909 | -0.551 | 0.103 | -0.254 | 29 |
| 30 | 0.81 | -0.426 | 0.017 | -0.23 | 0.897 | -0.565 | 0.107 | -0.261 | 30 |
| 31 | 0.802 | -0.44 | 0.02 | -0.237 | 0.886 | -0.578 | 0.111 | -0.268 | 31 |
| 32 | 0.794 | -0.453 | 0.023 | -0.243 | 0.874 | -0.591 | 0.114 | -0.275 | 32 |
| 33 | 0.785 | -0.466 | 0.026 | -0.25 | 0.861 | -0.604 | 0.118 | -0.282 | 33 |
| 34 | 0.777 | -0.479 | 0.03 | -0.257 | 0.849 | -0.617 | 0.122 | -0.289 | 34 |
| 35 | 0.767 | -0.491 | 0.033 | -0.263 | 0.836 | -0.629 | 0.126 | -0.296 | 35 |
| 36 | 0.758 | -0.504 | 0.037 | -0.269 | 0.823 | -0.641 | 0.13 | -0.303 | 36 |
| 37 | 0.748 | -0.516 | 0.04 | -0.275 | 0.81 | -0.653 | 0.133 | -0.309 | 37 |
| 38 | 0.739 | -0.527 | 0.044 | -0.282 | 0.797 | -0.664 | 0.137 | -0.315 | 38 |
| 39 | 0.728 | -0.539 | 0.047 | -0.288 | 0.784 | -0.676 | 0.141 | -0.321 | 39 |
| 40 | 0.718 | -0.55 | 0.051 | -0.293 | 0.771 | -0.686 | 0.145 | -0.327 | 40 |

| $\alpha = 0.25, \beta = 0$ | | | | | $\alpha = -0.25, \beta = 0$ | | | | |
|----------------------------|-------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.708 | -0.561 | 0.055 | -0.299 | 0.757 | -0.697 | 0.149 | -0.333 | 41 |
| 42 | 0.697 | -0.572 | 0.059 | -0.305 | 0.743 | -0.707 | 0.153 | -0.339 | 42 |
| 43 | 0.686 | -0.583 | 0.063 | -0.31 | 0.729 | -0.717 | 0.157 | -0.345 | 43 |
| 44 | 0.675 | -0.593 | 0.067 | -0.316 | 0.715 | -0.726 | 0.161 | -0.35 | 44 |
| 45 | 0.664 | -0.603 | 0.071 | -0.321 | 0.701 | -0.735 | 0.165 | -0.355 | 43 |
| 46 | 0.652 | -0.613 | 0.076 | -0.326 | 0.687 | -0.744 | 0.17 | -0.361 | 46 |
| 47 | 0.641 | -0.622 | 0.08 | -0.331 | 0.673 | -0.752 | 0.174 | -0.366 | 47 |
| 48 | 0.629 | -0.631 | 0.084 | -0.336 | 0.659 | -0.76 | 0.178 | -0.37 | 48 |
| 49 | 0.617 | -0.64 | 0.088 | -0.34 | 0.644 | -0.768 | 0.182 | -0.375 | 49 |
| 50 | 0.605 | -0.648 | 0.093 | -0.345 | 0.63 | -0.776 | 0.186 | -0.38 | 50 |
| 51 | 0.593 | -0.657 | 0.097 | -0.35 | 0.615 | -0.783 | 0.19 | -0.384 | 51 |
| 52 | 0.581 | -0.665 | 0.102 | -0.354 | 0.6 | -0.789 | 0.194 | -0.388 | 52 |
| 53 | 0.568 | -0.672 | 0.106 | -0.358 | 0.586 | -0.796 | 0.198 | -0.392 | 53 |
| 54 | 0.556 | -0.68 | 0.111 | -0.362 | 0.571 | -0.802 | 0.202 | -0.396 | 54 |
| 55 | 0.543 | -0.687 | 0.115 | -0.366 | 0.556 | -0.807 | 0.206 | -0.4 | 55 |
| 56 | 0.53 | -0.693 | 0.12 | -0.37 | 0.541 | -0.813 | 0.21 | -0.404 | 56 |
| 57 | 0.518 | -0.7 | 0.124 | -0.373 | 0.527 | -0.818 | 0.214 | -0.407 | 57 |
| 58 | 0.505 | -0.706 | 0.129 | -0.377 | 0.512 | -0.822 | 0.218 | -0.41 | 58 |
| 59 | 0.492 | -0.712 | 0.134 | -0.38 | 0.497 | -0.827 | 0.222 | -0.413 | 59 |
| 60 | 0.479 | -0.717 | 0.138 | -0.383 | 0.482 | -0.83 | 0.226 | -0.416 | 60 |
| 61 | 0.466 | -0.722 | 0.143 | -0.386 | 0.467 | -0.834 | 0.23 | -0.419 | 61 |
| 62 | 0.452 | -0.727 | 0.147 | -0.389 | 0.452 | -0.837 | 0.234 | -0.422 | 62 |
| 61 | 0.439 | -0.732 | 0.152 | -0.392 | 0.438 | -0.84 | 0.238 | -0.424 | 63 |
| 64 | 0.426 | -0.736 | 0.157 | -0.394 | 0.423 | -0.843 | 0.241 | -0.426 | 64 |
| 65 | 0.413 | -0.74 | 0.161 | -0.397 | 0.408 | -0.845 | 0.245 | -0.429 | 65 |
| 66 | 0.4 | -0.743 | 0.166 | -0.399 | 0.394 | -0.847 | 0.249 | -0.431 | 66 |
| 67 | 0.387 | -0.747 | 0.17 | -0.401 | 0.379 | -0.849 | 0.253 | -0.433 | 67 |
| 68 | 0.373 | -0.75 | 0.175 | -0.403 | 0.365 | -0.85 | 0.256 | -0.434 | 68 |
| 69 | 0.36 | -0.752 | 0.179 | -0.405 | 0.35 | -0.851 | 0.26 | -0.436 | 69 |
| 70 | 0.347 | -0.755 | 0.184 | -0.407 | 0.336 | -0.851 | 0.263 | -0.437 | 70 |
| 71 | 0.334 | -0.757 | 0.188 | -0.408 | 0.321 | -0.852 | 0.267 | -0.438 | 71 |
| 72 | 0.321 | -0.759 | 0.192 | -0.41 | 0.307 | -0.852 | 0.27 | -0.439 | 72 |
| 73 | 0.308 | -0.76 | 0.197 | -0.411 | 0.293 | -0.851 | 0.273 | -0.44 | 73 |
| 74 | 0.295 | -0.761 | 0.201 | -0.412 | 0.279 | -0.851 | 0.277 | -0.441 | 74 |
| 75 | 0.282 | -0.762 | 0.205 | -0.413 | 0.265 | -0.85 | 0.28 | -0.442 | 75 |

| $\alpha = 0.25, \beta = 0$ | | | | | $\alpha = -0.25, \beta = 0$ | | | | |
|----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.269 | -0.762 | 0.21 | -0.414 | 0.252 | -0.848 | 0.283 | -0.442 | 76 |
| 77 | 0.256 | -0.763 | 0.214 | -0.414 | 0.238 | -0.847 | 0.286 | -0.442 | 77 |
| 78 | 0.243 | -0.763 | 0.218 | -0.415 | 0.224 | -0.845 | 0.289 | -0.443 | 78 |
| 79 | 0.23 | -0.762 | 0.222 | -0.415 | 0.211 | -0.843 | 0.292 | -0.443 | 79 |
| 80 | 0.218 | -0.761 | 0.226 | -0.416 | 0.198 | -0.84 | 0.295 | -0.442 | 80 |
| 81 | 0.205 | -0.76 | 0.23 | -0.416 | 0.185 | -0.838 | 0.297 | -0.442 | 81 |
| 82 | 0.193 | -0.759 | 0.233 | -0.416 | 0.172 | -0.835 | 0.3 | -0.442 | 82 |
| 83 | 0.181 | -0.758 | 0.237 | -0.415 | 0.159 | -0.831 | 0.303 | -0.441 | 83 |
| 84 | 0.168 | -0.756 | 0.241 | -0.415 | 0.146 | -0.828 | 0.305 | -0.441 | 84 |
| 85 | 0.156 | -0.754 | 0.244 | -0.415 | 0.134 | -0.824 | 0.308 | -0.44 | 85 |
| 86 | 0.144 | -0.752 | 0.248 | -0.414 | 0.122 | -0.82 | 0.31 | -0.439 | 86 |
| 87 | 0.133 | -0.749 | 0.251 | -0.414 | 0.11 | -0.816 | 0.312 | -0.438 | 87 |
| 88 | 0.121 | -0.746 | 0.254 | -0.413 | 0.098 | -0.811 | 0.314 | -0.436 | 88 |
| 89 | 0.109 | -0.743 | 0.258 | -0.412 | 0.086 | -0.806 | 0.316 | -0.435 | 89 |
| 90 | 0.098 | -0.74 | 0.261 | -0.411 | 0.074 | -0.801 | 0.318 | -0.434 | 90 |
| 91 | 0.087 | -0.736 | 0.264 | -0.409 | 0.063 | -0.796 | 0.32 | -0.432 | 91 |
| 92 | 0.076 | -0.732 | 0.267 | -0.408 | 0.052 | -0.791 | 0.322 | -0.43 | 92 |
| 93 | 0.065 | -0.728 | 0.269 | -0.407 | 0.041 | -0.785 | 0.323 | -0.428 | 93 |
| 94 | 0.054 | -0.724 | 0.272 | -0.405 | 0.03 | -0.779 | 0.325 | -0.426 | 94 |
| 95 | 0.044 | -0.719 | 0.275 | -0.404 | 0.02 | -0.773 | 0.326 | -0.424 | 95 |
| 96 | 0.033 | -0.714 | 0.277 | -0.402 | 0.009 | -0.766 | 0.328 | -0.422 | 96 |
| 97 | 0.023 | -0.709 | 0.279 | -0.4 | -0.001 | -0.76 | 0.329 | -0.42 | 97 |
| 98 | 0.013 | -0.704 | 0.282 | -0.398 | -0.011 | -0.753 | 0.33 | -0.417 | 98 |
| 99 | 0.003 | -0.698 | 0.284 | -0.396 | -0.02 | -0.746 | 0.331 | -0.415 | 99 |
| 100 | -0.006 | -0.693 | 0.286 | -0.393 | -0.03 | -0.739 | 0.332 | -0.412 | 100 |
| 101 | -0.016 | -0.687 | 0.288 | -0.391 | -0.039 | -0.732 | 0.332 | -0.409 | 101 |
| 102 | -0.025 | -0.681 | 0.29 | -0.389 | -0.048 | -0.724 | 0.333 | -0.407 | 102 |
| 103 | -0.034 | -0.675 | 0.291 | -0.386 | -0.057 | -0.717 | 0.334 | -0.404 | 103 |
| 104 | -0.043 | -0.668 | 0.293 | -0.383 | -0.065 | -0.709 | 0.334 | -0.401 | 104 |
| 105 | -0.051 | -0.662 | 0.294 | -0.381 | -0.074 | -0.701 | 0.334 | -0.397 | 105 |
| 1.06 | -0.06 | -0.655 | 0.296 | -0.378 | -0.082 | -0.693 | 0.335 | -0.394 | 106 |
| 107 | -0.068 | -0.648 | 0.297 | -0.375 | -0.089 | -0.684 | 0.335 | -0.391 | 107 |
| 108 | -0.076 | -0.641 | 0.298 | -0.372 | -0.097 | -0.676 | 0.335 | -0.387 | 108 |
| 109 | -0.083 | -0.633 | 0.299 | -0.369 | -0.104 | -0.668 | 0.334 | -0.384 | 109 |
| 110 | -0.091 | -0.626 | 0.299 | -0.366 | -0.111 | -0.659 | 0.334 | -0.38 | 110 |

| $\alpha = 0.25, \beta = 0$ | | | | | $\alpha = -0.25, \beta = 0$ | | | | |
|----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.098 | -0.618 | 0.3 | -0.362 | -0.118 | -0.65 | 0.334 | -0.377 | 111 |
| 112 | -0.105 | -0.611 | 0.301 | -0.359 | -0.125 | -0.641 | 0.333 | -0.373 | 112 |
| 113 | -0.112 | -0.603 | 0.301 | -0.356 | -0.131 | -0.632 | 0.332 | -0.369 | 113 |
| 114 | -0.118 | -0.595 | 0.301 | -0.352 | -0.137 | -0.623 | 0.332 | -0.365 | 114 |
| 115 | -0.124 | -0.587 | 0.301 | -0.349 | -0.143 | -0.614 | 0.331 | -0.361 | 115 |
| 116 | -0.13 | -0.579 | 0.301 | -0.345 | -0.149 | -0.605 | 0.33 | -0.357 | 116 |
| 117 | -0.136 | -0.57 | 0.301 | -0.341 | -0.154 | -0.595 | 0.329 | -0.353 | 117 |
| 118 | -0.142 | -0.562 | 0.301 | -0.337 | -0.159 | -0.586 | 0.327 | -0.349 | 118 |
| 119 | -0.147 | -0.553 | 0.3 | -0.333 | -0.164 | -0.576 | 0.326 | -0.345 | 119 |
| 120 | -0.152 | -0.545 | 0.3 | -0.329 | -0.169 | -0.567 | 0.324 | -0.34 | 120 |
| 121 | -0.157 | -0.536 | 0.299 | -0.325 | -0.173 | -0.557 | 0.323 | -0.336 | 121 |
| 122 | -0.161 | -0.527 | 0.298 | -0.321 | -0.177 | -0.547 | 0.321 | -0.332 | 122 |
| 123 | -0.166 | -0.518 | 0.297 | -0.317 | -0.181 | -0.538 | 0.319 | -0.327 | 123 |
| 124 | -0.17 | -0.509 | 0.296 | -0.313 | -0.185 | -0.528 | 0.317 | -0.323 | 124 |
| 125 | -0.174 | -0.5 | 0.295 | -0.309 | -0.188 | -0.518 | 0.315 | -0.318 | 125 |
| 126 | -0.177 | -0.491 | 0.293 | -0.305 | -0.191 | -0.508 | 0.313 | -0.314 | 126 |
| 127 | -0.181 | -0.482 | 0.292 | -0.3 | -0.194 | -0.498 | 0.31 | -0.309 | 127 |
| 128 | -0.184 | -0.473 | 0.29 | -0.296 | -0.197 | -0.488 | 0.308 | -0.304 | 128 |
| 129 | -0.187 | -0.464 | 0.288 | -0.291 | -0.199 | -0.479 | 0.305 | -0.299 | 129 |
| 130 | -0.189 | -0.455 | 0.286 | -0.287 | -0.201 | -0.469 | 0.303 | -0.295 | 130 |
| 131 | -0.192 | -0.446 | 0.284 | -0.282 | -0.203 | -0.459 | 0.3 | -0.29 | 131 |
| 132 | -0.194 | -0.436 | 0.282 | -0.278 | -0.205 | -0.449 | 0.297 | -0.285 | 132 |
| 333 | -0.196 | -0.427 | 0.279 | -0.273 | -0.207 | -0.439 | 0.294 | -0.28 | 133 |
| 134 | -0.198 | -0.418 | 0.276 | -0.269 | -0.208 | -0.429 | 0.29 | -0.275 | 134 |
| 135 | -0.199 | -0.409 | 0.274 | -0.264 | -0.21 | -0.419 | 0.287 | -0.27 | 135 |

| $\alpha = 0.5, \beta = 0$ | | | | | $\alpha = -0.5, \beta = 0$ | | | | |
|---------------------------|-------|--------|--------|--------|----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.842 | -0.035 | -0.021 | -0.042 | 1.292 | -0.258 | 0.083 | -0.058 | 6 |
| 7 | 0.844 | -0.049 | -0.023 | -0.05 | 1.278 | -0.282 | 0.091 | -0.068 | 7 |
| 8 | 0.845 | -0.064 | -0.025 | -0.057 | 1.264 | -0.305 | 0.098 | -0.078 | 8 |
| 9 | 0.846 | -0.078 | -0.026 | -0.065 | 1.251 | -0.327 | 0.105 | -0.089 | 9 |
| 10 | 0.847 | -0.093 | -0.027 | -0.072 | 1.238 | -0.348 | 0.111 | -0.099 | 10 |
| 11 | 0.847 | -0.108 | -0.028 | -0.08 | 1.225 | -0.368 | 0.117 | -0.109 | 11 |
| 12 | 0.847 | -0.123 | -0.029 | -0.087 | 1.212 | -0.388 | 0.123 | -0.119 | 12 |
| 13 | 0.846 | -0.138 | -0.029 | -0.095 | 1.199 | -0.408 | 0.128 | -0.128 | 13 |
| 14 | 0.845 | -0.153 | -0.029 | -0.102 | 1.187 | -0.427 | 0.133 | -0.138 | 14 |
| 15 | 0.843 | -0.167 | -0.029 | -0.109 | 1.174 | -0.446 | 0.138 | -0.148 | 15 |
| 16 | 0.841 | -0.182 | -0.029 | -0.117 | 1.161 | -0.464 | 0.143 | -0.157 | 16 |
| 17 | 0.839 | -0.197 | -0.028 | -0.124 | 1.147 | -0.482 | 0.147 | -0.167 | 17 |
| 18 | 0.836 | -0.212 | -0.028 | -0.132 | 1.134 | -0.5 | 0.151 | -0.176 | 18 |
| 19 | 0.834 | -0.227 | -0.027 | -0.139 | 1.121 | -0.517 | 0.156 | -0.185 | 19 |
| 20 | 0.83 | -0.241 | -0.026 | -0.146 | 1.107 | -0.534 | 0.16 | -0.194 | 20 |
| 21 | 0.826 | -0.256 | -0.025 | -0.154 | 1.094 | -0.551 | 0.164 | -0.203 | 21 |
| 22 | 0.822 | -0.27 | -0.024 | -0.161 | 1.08 | -0.567 | 0.168 | -0.212 | 22 |
| 23 | 0.818 | -0.284 | -0.022 | -0.168 | 1.066 | -0.583 | 0.172 | -0.22 | 23 |
| 24 | 0.813 | -0.299 | -0.02 | -0.175 | 1.052 | -0.599 | 0.176 | -0.229 | 24 |
| 25 | 0.808 | -0.313 | -0.019 | -0.182 | 1.037 | -0.614 | 0.18 | -0.237 | 25 |
| 26 | 0.803 | -0.327 | -0.017 | -0.189 | 1.023 | -0.629 | 0.184 | -0.246 | 26 |
| 27 | 0.797 | -0.341 | -0.015 | -0.196 | 1.009 | -0.644 | 0.188 | -0.254 | 27 |
| 28 | 0.791 | -0.354 | -0.013 | -0.203 | 0.994 | -0.658 | 0.192 | -0.262 | 28 |
| 29 | 0.785 | -0.368 | -0.01 | -0.21 | 0.979 | -0.672 | 0.195 | -0.27 | 29 |
| 30 | 0.779 | -0.381 | -0.008 | -0.217 | 0.964 | -0.686 | 0.199 | -0.278 | 30 |
| 31 | 0.772 | -0.394 | -0.005 | -0.223 | 0.949 | -0.699 | 0.203 | -0.285 | 31 |
| 32 | 0.765 | -0.407 | -0.002 | -0.23 | 0.934 | -0.712 | 0.206 | -0.293 | 32 |
| 33 | 0.757 | -0.42 | 0 | -0.236 | 0.918 | -0.724 | 0.21 | -0.3 | 33 |
| 34 | 0.749 | -0.433 | 0.003 | -0.243 | 0.903 | -0.736 | 0.214 | -0.307 | 34 |
| 35 | 0.741 | -0.445 | 0.006 | -0.249 | 0.887 | -0.748 | 0.217 | -0.314 | 35 |
| 36 | 0.733 | -0.458 | 0.01 | -0.255 | 0.872 | -0.759 | 0.221 | -0.321 | 36 |
| 37 | 0.725 | -0.47 | 0.013 | -0.261 | 0.856 | -0.77 | 0.224 | -0.328 | 37 |
| 38 | 0.716 | -0.482 | 0.016 | -0.267 | 0.84 | -0.781 | 0.228 | -0.334 | 38 |
| 39 | 0.707 | -0.493 | 0.02 | -0.273 | 0.824 | -0.791 | 0.231 | -0.341 | 39 |
| 40 | 0.698 | -0.504 | 0.023 | -0.279 | 0.808 | -0.801 | 0.235 | -0.347 | 40 |

| $\alpha = 0.5, \beta = 0$ | | | | | $\alpha = -0.5, \beta = 0$ | | | | |
|---------------------------|-------|--------|-------|--------|----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.688 | -0.516 | 0.027 | -0.285 | 0.792 | -0.81 | 0.238 | -0.353 | 41 |
| 42 | 0.679 | -0.526 | 0.031 | -0.29 | 0.775 | -0.819 | 0.242 | -0.359 | 42 |
| 43 | 0.669 | -0.537 | 0.035 | -0.296 | 0.759 | -0.828 | 0.245 | -0.365 | 43 |
| 44 | 0.659 | -0.548 | 0.038 | -0.301 | 0.743 | -0.836 | 0.249 | -0.37 | 44 |
| 45 | 0.649 | -0.558 | 0.043 | -0.306 | 0.727 | -0.844 | 0.252 | -0.376 | 45 |
| 46 | 0.638 | -0.568 | 0.047 | -0.312 | 0.71 | -0.852 | 0.255 | -0.381 | 46 |
| 47 | 0.627 | -0.577 | 0.051 | -0.317 | 0.694 | -0.859 | 0.259 | -0.386 | 47 |
| 48 | 0.617 | -0.587 | 0.055 | -0.321 | 0.677 | -0.866 | 0.262 | -0.391 | 48 |
| 49 | 0.606 | -0.596 | 0.059 | -0.326 | 0.661 | -0.872 | 0.265 | -0.396 | 0.49 |
| 50 | 0.594 | -0.604 | 0.063 | -0.331 | 0.644 | -0.878 | 0.269 | -0.4 | 50 |
| 51 | 0.583 | -0.613 | 0.068 | -0.335 | 0.628 | -0.884 | 0.272 | -0.405 | 51 |
| 52 | 0.572 | -0.621 | 0.072 | -0.34 | 0.611 | -0.889 | 0.275 | -0.409 | 52 |
| 53 | 0.56 | -0.629 | 0.077 | -0.344 | 0.595 | -0.894 | 0.278 | -0.413 | 53 |
| 54 | 0.548 | -0.637 | 0.081 | -0.348 | 0.579 | -0.899 | 0.281 | -0.417 | 54 |
| 55 | 0.537 | -0.644 | 0.086 | -0.352 | 0.562 | -0.903 | 0.284 | -0.421 | 55 |
| 56 | 0.525 | -0.651 | 0.091 | -0.356 | 0.546 | -0.906 | 0.287 | -0.424 | 56 |
| 57 | 0.513 | -0.658 | 0.095 | -0.359 | 0.53 | -0.91 | 0.29 | -0.428 | 57 |
| 58 | 0.5 | -0.665 | 0.1 | -0.363 | 0.513 | -0.913 | 0.293 | -0.431 | 58 |
| 59 | 0.488 | -0.671 | 0.104 | -0.366 | 0.497 | -0.916 | 0.296 | -0.434 | 59 |
| 60 | 0.476 | -0.677 | 0.109 | -0.369 | 0.481 | -0.918 | 0.299 | -0.437 | 60 |
| 61 | 0.464 | -0.682 | 0.114 | -0.373 | 0.465 | -0.92 | 0.302 | -0.44 | 61 |
| 62 | 0.451 | -0.688 | 0.119 | -0.375 | 0.449 | -0.922 | 0.305 | -0.442 | 62 |
| 63 | 0.439 | -0.693 | 0.123 | -0.378 | 0.433 | -0.923 | 0.308 | -0.444 | 63 |
| 64 | 0.426 | -0.697 | 0.128 | -0.381 | 0.417 | -0.924 | 0.31 | -0.447 | 64 |
| 65 | 0.413 | -0.702 | 0.133 | -0.384 | 0.402 | -0.925 | 0.313 | -0.449 | 65 |
| 66 | 0.401 | -0.706 | 0.137 | -0.386 | 0.386 | -0.925 | 0.316 | -0.45 | 66 |
| 67 | 0.388 | -0.71 | 0.142 | -0.388 | 0.37 | -0.925 | 0.318 | -0.452 | 67 |
| 68 | 0.375 | -0.713 | 0.147 | -0.39 | 0.355 | -0.924 | 0.321 | -0.454 | 68 |
| 69 | 0.363 | -0.716 | 0.151 | -0.392 | 0.34 | -0.924 | 0.323 | -0.455 | 69 |
| 70 | 0.35 | -0.719 | 0.156 | -0.394 | 0.325 | -0.923 | 0.325 | -0.456 | 70 |
| 71 | 0.337 | -0.722 | 0.161 | -0.396 | 0.31 | -0.921 | 0.328 | -0.457 | 71 |
| 72 | 0.325 | -0.724 | 0.165 | -0.397 | 0.295 | -0.92 | 0.33 | -0.458 | 72 |
| 73 | 0.312 | -0.726 | 0.17 | -0.399 | 0.28 | -0.918 | 0.332 | -0.459 | 73 |
| 74 | 0.299 | -0.728 | 0.174 | -0.4 | 0.266 | -0.915 | 0.334 | -0.459 | 74 |
| 75 | 0.287 | -0.729 | 0.179 | -0.401 | 0.251 | -0.913 | 0.336 | -0.46 | 75 |

| $\alpha = 0.5, \beta = 0$ | | | | | $\alpha = -0.5, \beta = 0$ | | | | |
|---------------------------|--------|--------|-------|--------|----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.274 | -0.73 | 0.183 | -0.402 | 0.237 | -0.91 | 0.338 | -0.46 | 76 |
| 77 | 0.262 | -0.731 | 0.188 | -0.403 | 0.223 | -0.907 | 0.34 | -0.46 | 77 |
| 78 | 0.249 | -0.731 | 0.192 | -0.404 | 0.209 | -0.903 | 0.342 | -0.46 | 78 |
| 79 | 0.237 | -0.731 | 0.196 | -0.404 | 0.195 | -0.9 | 0.344 | -0.459 | 79 |
| 80 | 0.224 | -0.731 | 0.201 | -0.404 | 0.182 | -0.896 | 0.345 | -0.459 | 80 |
| 81 | 0.212 | -0.731 | 0.205 | -0.405 | 0.169 | -0.892 | 0.347 | -0.459 | 81 |
| 82 | 0.2 | -0.73 | 0.209 | -0.405 | 0.155 | -0.887 | 0.349 | -0.458 | 82 |
| 83 | 0.188 | -0.729 | 0.213 | -0.405 | 0.142 | -0.882 | 0.35 | -0.457 | 83 |
| 84 | 0.176 | -0.728 | 0.217 | -0.405 | 0.13 | -0.877 | 0.351 | -0.456 | 84 |
| 85 | 0.164 | -0.727 | 0.221 | -0.404 | 0.117 | -0.872 | 0.353 | -0.455 | 85 |
| 86 | 0.152 | -0.725 | 0.224 | -0.404 | 0.105 | -0.867 | 0.354 | -0.454 | 86 |
| 87 | 0.141 | -0.723 | 0.228 | -0.403 | 0.093 | -0.861 | 0.355 | -0.452 | 87 |
| 88 | 0.129 | -0.721 | 0.232 | -0.403 | 0.081 | -0.855 | 0.356 | -0.451 | 88 |
| 89 | 0.118 | -0.718 | 0.235 | -0.402 | 0.069 | -0.849 | 0.357 | -0.449 | 89 |
| 90 | 0.107 | -0.715 | 0.239 | -0.401 | 0.057 | -0.842 | 0.358 | -0.448 | 90 |
| 91 | 0.095 | -0.712 | 0.242 | -0.4 | 0.046 | -0.836 | 0.359 | -0.446 | 91 |
| 92 | 0.085 | -0.709 | 0.245 | -0.399 | 0.035 | -0.829 | 0.359 | -0.444 | 92 |
| 93 | 0.074 | -0.705 | 0.249 | -0.398 | 0.024 | -0.822 | 0.36 | -0.441 | 93 |
| 94 | 0.063 | -0.702 | 0.252 | -0.396 | 0.013 | -0.815 | 0.36 | -0.439 | 94 |
| 95 | 0.053 | -0.698 | 0.255 | -0.395 | 0.003 | -0.808 | 0.361 | -0.437 | 95 |
| 96 | 0.042 | -0.693 | 0.257 | -0.393 | -0.007 | -0.8 | 0.361 | -0.434 | 96 |
| 97 | 0.032 | -0.689 | 0.26 | -0.391 | -0.017 | -0.792 | 0.361 | -0.432 | 97 |
| 98 | 0.022 | -0.684 | 0.263 | -0.389 | -0.027 | -0.784 | 0.362 | -0.429 | 98 |
| 99 | 0.012 | -0.679 | 0.265 | -0.387 | -0.036 | -0.776 | 0.362 | -0.426 | 99 |
| 100 | 0.003 | -0.674 | 0.268 | -0.385 | -0.045 | -0.768 | 0.362 | -0.423 | 100 |
| 101 | -0.007 | -0.669 | 0.27 | -0.383 | -0.054 | -0.76 | 0.361 | -0.42 | 101 |
| 102 | -0.016 | -0.663 | 0.272 | -0.381 | -0.063 | -0.751 | 0.361 | -0.417 | 102 |
| 103 | -0.025 | -0.657 | 0.274 | -0.379 | -0.072 | -0.743 | 0.361 | -0.414 | 103 |
| 104 | -0.034 | -0.651 | 0.276 | -0.376 | -0.08 | -0.734 | 0.36 | -0.411 | 104 |
| 105 | -0.042 | -0.645 | 0.278 | -0.373 | -0.088 | -0.725 | 0.36 | -0.407 | 105 |
| 106 | -0.051 | -0.639 | 0.28 | -0.371 | -0.096 | -0.716 | 0.359 | -0.404 | 106 |
| 107 | -0.059 | -0.633 | 0.281 | -0.368 | -0.103 | -0.707 | 0.358 | -0.4 | 107 |
| 108 | -0.067 | -0.626 | 0.283 | -0.365 | -0.111 | -0.698 | 0.357 | -0.396 | 108 |
| 109 | -0.075 | -0.619 | 0.284 | -0.362 | -0.118 | -0.688 | 0.357 | -0.393 | 109 |
| 110 | -0.082 | -0.612 | 0.285 | -0.359 | -0.124 | -0.679 | 0.355 | -0.389 | 110 |

| $\alpha = 0.5, \beta = 0$ | | | | | $\alpha = -0.5, \beta = 0$ | | | | |
|---------------------------|--------|--------|-------|--------|----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.09 | -0.605 | 0.286 | -0.356 | -0.131 | -0.669 | 0.354 | -0.385 | 111 |
| 112 | -0.097 | -0.598 | 0.287 | -0.353 | -0.137 | -0.659 | 0.353 | -0.381 | 112 |
| 113 | -0.104 | -0.59 | 0.288 | -0.35 | -0.143 | -0.65 | 0.352 | -0.377 | 113 |
| 114 | -0.11 | -0.583 | 0.288 | -0.346 | -0.149 | -0.64 | 0.35 | -0.373 | 114 |
| 115 | -0.117 | -0.575 | 0.289 | -0.343 | -0.155 | -0.63 | 0.349 | -0.369 | 115 |
| 116 | -0.123 | -0.567 | 0.289 | -0.339 | -0.16 | -0.62 | 0.347 | -0.364 | 116 |
| 117 | -0.129 | -0.559 | 0.289 | -0.336 | -0.165 | -0.61 | 0.345 | -0.36 | 117 |
| 118 | -0.134 | -0.551 | 0.289 | -0.332 | -0.17 | -0.6 | 0.343 | -0.356 | 118 |
| 119 | -0.14 | -0.543 | 0.289 | -0.328 | -0.174 | -0.59 | 0.341 | -0.351 | 119 |
| 120 | -0.145 | -0.535 | 0.289 | -0.325 | -0.179 | -0.58 | 0.339 | -0.347 | 120 |
| 121 | -0.15 | -0.527 | 0.289 | -0.321 | -0.183 | -0.569 | 0.337 | -0.342 | 121 |
| 122 | -0.155 | -0.516 | 0.288 | -0.317 | -0.186 | -0.559 | 0.334 | -0.337 | 122 |
| 123 | -0.159 | -0.51 | 0.288 | -0.313 | -0.19 | -0.549 | 0.332 | -0.333 | 123 |
| 124 | -0.163 | -0.501 | 0.287 | -0.309 | -0.193 | -0.538 | 0.33 | -0.328 | 124 |
| 125 | -0.167 | -0.493 | 0.286 | -0.305 | -0.196 | -0.528 | 0.327 | -0.323 | 125 |
| 126 | -0.171 | -0.484 | 0.285 | -0.301 | -0.199 | -0.518 | 0.324 | -0.318 | 126 |
| 127 | -0.175 | -0.475 | 0.283 | -0.296 | -0.202 | -0.507 | 0.321 | -0.314 | 127 |
| 120 | -0.178 | -0.466 | 0.282 | -0.292 | -0.204 | -0.497 | 0.318 | -0.309 | 128 |
| 129 | -0.181 | -0.457 | 0.281 | -0.288 | -0.206 | -0.487 | 0.315 | -0.304 | 129 |
| 130 | -0.184 | -0.449 | 0.279 | -0.283 | -0.208 | -0.476 | 0.312 | -0.299 | 130 |
| 131 | -0.186 | -0.44 | 0.277 | -0.279 | -0.21 | -0.466 | 0.309 | -0.294 | 131 |
| 132 | -0.189 | -0.431 | 0.275 | -0.275 | -0.212 | -0.456 | 0.305 | -0.288 | 132 |
| 133 | -0.191 | -0.422 | 0.273 | -0.27 | -0.213 | -0.445 | 0.302 | -0.283 | 133 |
| 134 | -0.193 | -0.413 | 0.27 | -0.266 | -0.214 | -0.435 | 0.298 | -0.278 | 134 |
| 135 | -0.195 | -0.404 | 0.268 | -0.261 | -0.215 | -0.425 | 0.294 | -0.273 | 135 |

| $\alpha = 0.75, \beta = 0$ | | | | | $\alpha = -0.75, \beta = 0$ | | | | |
|----------------------------|-------|--------|--------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.789 | -0.013 | -0.027 | -0.038 | 1.645 | -0.424 | 0.241 | -0.019 | 6 |
| 7 | 0.792 | -0.026 | -0.03 | -0.045 | 1.613 | -0.466 | 0.259 | -0.032 | 7 |
| 8 | 0.795 | -0.04 | -0.032 | -0.052 | 1.583 | -0.501 | 0.274 | -0.045 | 8 |
| 9 | 0.797 | -0.053 | -0.034 | -0.059 | 1.554 | -0.531 | 0.287 | -0.057 | 9 |
| 10 | 0.798 | -0.067 | -0.036 | -0.066 | 1.528 | -0.559 | 0.298 | -0.07 | 10 |
| 11 | 0.799 | -0.081 | -0.037 | -0.073 | 1.501 | -0.585 | 0.309 | -0.083 | 11 |
| 12 | 0.8 | -0.095 | -0.039 | -0.08 | 1.476 | -0.609 | 0.318 | -0.095 | 12 |
| 13 | 0.801 | -0.109 | -0.04 | -0.087 | 1.452 | -0.632 | 0.326 | -0.106 | 13 |
| 14 | 0.801 | -0.124 | -0.04 | -0.094 | 1.429 | -0.654 | 0.333 | -0.118 | 14 |
| 15 | 0.8 | -0.138 | -0.041 | -0.102 | 1.405 | -0.675 | 0.339 | -0.13 | 15 |
| 16 | 0.799 | -0.152 | -0.041 | -0.109 | 1.382 | -0.695 | 0.345 | -0.142 | 16 |
| 17 | 0.798 | -0.166 | -0.041 | -0.116 | 1.359 | -0.715 | 0.351 | -0.153 | 17 |
| 18 | 0.797 | -0.18 | -0.041 | -0.123 | 1.337 | -0.734 | 0.356 | -0.165 | 18 |
| 19 | 0.795 | -0.194 | -0.041 | -0.13 | 1.314 | -0.752 | 0.362 | -0.176 | 19 |
| 20 | 0.793 | -0.208 | -0.04 | -0.137 | 1.292 | -0.769 | 0.366 | -0.187 | 20 |
| 21 | 0.79 | -0.223 | -0.04 | -0.144 | 1.27 | -0.786 | 0.371 | -0.197 | 21 |
| 22 | 0.787 | -0.236 | -0.039 | -0.151 | 1.248 | -0.802 | 0.375 | -0.208 | 22 |
| 23 | 0.784 | -0.25 | -0.038 | -0.158 | 1.226 | -0.817 | 0.378 | -0.218 | 23 |
| 24 | 0.78 | -0.264 | -0.037 | -0.165 | 1.205 | -0.832 | 0.381 | -0.228 | 24 |
| 25 | 0.776 | -0.278 | -0.035 | -0.172 | 1.183 | -0.847 | 0.384 | -0.237 | 25 |
| 26 | 0.772 | -0.292 | -0.034 | -0.178 | 1.162 | -0.861 | 0.387 | -0.247 | 26 |
| 27 | 0.767 | -0.305 | -0.032 | -0.185 | 1.14 | -0.874 | 0.389 | -0.257 | 27 |
| 28 | 0.762 | -0.318 | -0.03 | -0.192 | 1.119 | -0.888 | 0.392 | -0.266 | 28 |
| 29 | 0.757 | -0.332 | -0.028 | -0.198 | 1.097 | -0.9 | 0.394 | -0.275 | 29 |
| 30 | 0.751 | -0.345 | -0.026 | -0.205 | 1.076 | -0.912 | 0.396 | -0.284 | 30 |
| 31 | 0.745 | -0.358 | -0.024 | -0.212 | 1.055 | -0.924 | 0.398 | -0.293 | 31 |
| 32 | 0.739 | -0.371 | -0.022 | -0.218 | 1.033 | -0.934 | 0.4 | -0.301 | 32 |
| 33 | 0.733 | -0.383 | -0.019 | -0.224 | 1.012 | -0.945 | 0.401 | -0.31 | 33 |
| 34 | 0.726 | -0.396 | -0.016 | -0.231 | 0.991 | -0.955 | 0.403 | -0.318 | 34 |
| 35 | 0.719 | -0.408 | -0.014 | -0.237 | 0.97 | -0.964 | 0.404 | -0.326 | 35 |
| 36 | 0.712 | -0.42 | -0.011 | -0.243 | 0.948 | -0.973 | 0.406 | -0.334 | 36 |
| 37 | 0.704 | -0.432 | -0.008 | -0.249 | 0.927 | -0.982 | 0.407 | -0.342 | 37 |
| 38 | 0.696 | -0.444 | -0.005 | -0.255 | 0.906 | -0.99 | 0.408 | -0.349 | 38 |
| 39 | 0.688 | -0.456 | -0.001 | -0.261 | 0.886 | -0.997 | 0.409 | -0.357 | 39 |
| 40 | 0.68 | -0.467 | 0.002 | -0.267 | 0.865 | -1.004 | 0.41 | -0.364 | 40 |

| $\alpha = 0.75, \beta = 0$ | | | | | $\alpha = -0.75, \beta = 0$ | | | | |
|----------------------------|-------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.671 | -0.478 | 0.006 | -0.272 | 0.844 | -1.011 | 0.411 | -0.371 | 41 |
| 42 | 0.663 | -0.489 | 0.009 | -0.278 | 0.823 | -1.017 | 0.412 | -0.377 | 42 |
| 43 | 0.653 | -0.5 | 0.013 | -0.283 | 0.803 | -1.022 | 0.413 | -0.384 | 43 |
| 44 | 0.644 | -0.51 | 0.016 | -0.289 | 0.782 | -1.028 | 0.414 | -0.39 | 44 |
| 45 | 0.635 | -0.521 | 0.02 | -0.294 | 0.762 | -1.032 | 0.414 | -0.396 | 45 |
| 46 | 0.625 | -0.531 | 0.024 | -0.299 | 0.742 | -1.037 | 0.415 | -0.402 | 46 |
| 47 | 0.615 | -0.54 | 0.028 | -0.304 | 0.722 | -1.04 | 0.416 | -0.407 | 47 |
| 48 | 0.605 | -0.55 | 0.032 | -0.309 | 0.702 | -1.044 | 0.416 | -0.413 | 48 |
| 49 | 0.595 | -0.559 | 0.036 | -0.313 | 0.682 | -1.047 | 0.417 | -0.418 | 49 |
| 50 | 0.585 | -0.568 | 0.041 | -0.318 | 0.662 | -1.049 | 0.417 | -0.423 | 50 |
| 51 | 0.574 | -0.577 | 0.045 | -0.323 | 0.643 | -1.052 | 0.418 | -0.427 | 51 |
| 52 | 0.563 | -0.585 | 0.049 | -0.327 | 0.623 | -1.053 | 0.418 | -0.432 | 52 |
| 53 | 0.552 | -0.593 | 0.054 | -0.331 | 0.604 | -1.055 | 0.418 | -0.436 | 53 |
| 54 | 0.542 | -0.601 | 0.058 | -0.335 | 0.585 | -1.056 | 0.419 | -0.44 | 54 |
| 55 | 0.53 | -0.609 | 0.063 | -0.339 | 0.566 | -1.056 | 0.419 | -0.444 | 55 |
| 56 | 0.519 | -0.616 | 0.067 | -0.343 | 0.547 | -1.057 | 0.419 | -0.448 | 56 |
| 57 | 0.508 | -0.623 | 0.072 | -0.347 | 0.529 | -1.057 | 0.419 | -0.451 | 57 |
| 58 | 0.496 | -0.63 | 0.077 | -0.35 | 0.511 | -1.056 | 0.419 | -0.455 | 58 |
| 59 | 0.484 | -0.637 | 0.081 | -0.354 | 0.492 | -1.055 | 0.42 | -0.458 | 59 |
| 60 | 0.473 | -0.643 | 0.086 | -0.357 | 0.474 | -1.054 | 0.42 | -0.461 | 60 |
| 61 | 0.461 | -0.649 | 0.091 | -0.36 | 0.456 | -1.053 | 0.42 | -0.463 | 61 |
| 62 | 0.449 | -0.654 | 0.095 | -0.363 | 0.439 | -1.051 | 0.42 | -0.466 | 62 |
| 63 | 0.437 | -0.66 | 0.1 | -0.366 | 0.421 | -1.049 | 0.42 | -0.468 | 63 |
| 64 | 0.425 | -0.665 | 0.105 | -0.369 | 0.404 | -1.046 | 0.42 | -0.47 | 64 |
| 65 | 0.413 | -0.67 | 0.11 | -0.372 | 0.387 | -1.044 | 0.42 | -0.472 | 65 |
| 66 | 0.401 | -0.674 | 0.114 | -0.374 | 0.37 | -1.041 | 0.42 | -0.474 | 66 |
| 67 | 0.389 | -0.678 | 0.119 | -0.376 | 0.354 | -1.037 | 0.42 | -0.475 | 67 |
| 68 | 0.376 | -0.682 | 0.124 | -0.379 | 0.337 | -1.034 | 0.42 | -0.476 | 68 |
| 69 | 0.364 | -0.686 | 0.129 | -0.381 | 0.321 | -1.03 | 0.42 | -0.478 | 69 |
| 70 | 0.352 | -0.689 | 0.134 | -0.383 | 0.305 | -1.026 | 0.419 | -0.479 | 70 |
| 71 | 0.34 | -0.692 | 0.138 | -0.384 | 0.289 | -1.021 | 0.419 | -0.479 | 71 |
| 72 | 0.327 | -0.695 | 0.143 | -0.386 | 0.274 | -1.017 | 0.419 | -0.48 | 72 |
| 73 | 0.315 | -0.697 | 0.148 | -0.388 | 0.259 | -1.012 | 0.419 | -0.48 | 73 |
| 74 | 0.303 | -0.699 | 0.152 | -0.389 | 0.244 | -1.006 | 0.419 | -0.481 | 74 |
| 75 | 0.291 | -0.701 | 0.157 | -0.39 | 0.229 | -1.001 | 0.418 | -0.481 | 75 |

| $\alpha = 0.75, \beta = 0$ | | | | | $\alpha = -0.75, \beta = 0$ | | | | |
|----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.278 | -0.702 | 0.162 | -0.391 | 0.214 | -0.995 | 0.418 | -0.481 | 76 |
| 77 | 0.266 | -0.704 | 0.166 | -0.392 | 0.2 | -0.99 | 0.418 | -0.48 | 77 |
| 78 | 0.254 | -0.705 | 0.171 | -0.393 | 0.186 | -0.983 | 0.417 | -0.48 | 78 |
| 79 | 0.242 | -0.705 | 0.175 | -0.394 | 0.172 | -0.977 | 0.417 | -0.479 | 79 |
| 80 | 0.23 | -0.706 | 0.18 | -0.394 | 0.158 | -0.971 | 0.416 | -0.479 | 80 |
| 81 | 0.218 | -0.706 | 0.184 | -0.395 | 0.145 | -0.964 | 0.416 | -0.478 | 81 |
| 82 | 0.206 | -0.705 | 0.188 | -0.395 | 0.131 | -0.957 | 0.415 | -0.477 | 82 |
| 83 | 0.194 | -0.705 | 0.192 | -0.395 | 0.118 | -0.95 | 0.415 | -0.476 | 83 |
| 4 | 0.182 | -0.704 | 0.197 | -0.395 | 0.106 | -0.942 | 0.414 | -0.474 | 84 |
| 85 | 0.171 | -0.703 | 0.201 | -0.395 | 0.093 | -0.935 | 0.414 | -0.473 | 85 |
| 86 | 0.159 | -0.702 | 0.205 | -0.395 | 0.081 | -0.927 | 0.413 | -0.471 | 86 |
| 87 | 0.148 | -0.7 | 0.209 | -0.394 | 0.069 | -0.919 | 0.412 | -0.47 | 87 |
| 88 | 0.136 | -0.698 | 0.213 | -0.394 | 0.057 | -0.911 | 0.412 | -0.468 | 88 |
| 89 | 0.125 | -0.696 | 0.216 | -0.393 | 0.045 | -0.903 | 0.411 | -0.466 | 89 |
| 90 | 0.114 | -0.694 | 0.22 | -0.392 | 0.034 | -0.895 | 0.41 | -0.464 | 90 |
| 91 | 0.103 | -0.691 | 0.224 | -0.391 | 0.023 | -0.886 | 0.409 | -0.461 | 91 |
| 92 | 0.092 | -0.689 | 0.227 | -0.391 | 0.012 | -0.878 | 0.408 | -0.459 | 92 |
| 93 | 0.081 | -0.686 | 0.231 | -0.389 | 0.002 | -0.869 | 0.407 | -0.457 | 93 |
| 94 | 0.071 | -0.682 | 0.234 | -0.388 | -0.009 | -0.86 | 0.406 | -0.454 | 94 |
| 95 | 0.06 | -0.679 | 0.237 | -0.387 | -0.019 | -0.851 | 0.405 | -0.451 | 95 |
| 96 | 0.05 | -0.675 | 0.24 | -0.385 | -0.028 | -0.841 | 0.404 | -0.448 | 96 |
| 97 | 0.04 | -0.671 | 0.243 | -0.383 | -0.038 | -0.832 | 0.402 | -0.445 | 97 |
| 98 | 0.03 | -0.666 | 0.246 | -0.382 | -0.047 | -0.823 | 0.401 | -0.442 | 98 |
| 99 | 0.02 | -0.662 | 0.249 | -0.38 | -0.056 | -0.813 | 0.4 | -0.439 | 99 |
| 100 | 0.011 | -0.657 | 0.252 | -0.378 | -0.065 | -0.803 | 0.398 | -0.436 | 100 |
| 101 | 0.001 | -0.652 | 0.255 | -0.376 | -0.074 | -0.794 | 0.397 | -0.433 | 101 |
| 102 | -0.008 | -0.647 | 0.257 | -0.374 | -0.082 | -0.784 | 0.395 | -0.429 | 102 |
| 103 | -0.017 | -0.642 | 0.259 | -0.372 | -0.09 | -0.774 | 0.394 | -0.426 | 103 |
| 104 | -0.026 | -0.636 | 0.262 | -0.369 | -0.098 | -0.764 | 0.392 | -0.422 | 104 |
| 105 | -0.035 | -0.631 | 0.264 | -0.367 | -0.106 | -0.754 | 0.39 | -0.418 | 105 |
| 106 | -0.043 | -0.625 | 0.266 | -0.364 | -0.113 | -0.743 | 0.389 | -0.414 | 106 |
| 107 | -0.051 | -0.619 | 0.268 | -0.362 | -0.12 | -0.733 | 0.387 | -0.411 | 107 |
| 108 | -0.059 | -0.613 | 0.269 | -0.359 | -0.127 | -0.723 | 0.385 | -0.407 | 108 |
| 109 | -0.067 | -0.606 | 0.271 | -0.356 | -0.134 | -0.712 | 0.383 | -0.402 | 109 |
| 110 | -0.075 | -0.6 | 0.272 | -0.353 | -0.14 | -0.702 | 0.381 | -0.398 | 110 |

| $\alpha = 0.75, \beta = 0$ | | | | | $\alpha = -0.75, \beta = 0$ | | | | |
|----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.082 | -0.593 | 0.274 | -0.35 | -0.146 | -0.691 | 0.378 | -0.394 | 111 |
| 112 | -0.089 | -0.586 | 0.275 | -0.347 | -0.152 | -0.68 | 0.376 | -0.39 | 112 |
| 113 | -0.096 | -0.579 | 0.276 | -0.344 | -0.157 | -0.67 | 0.374 | -0.385 | 113 |
| 114 | -0.103 | -0.572 | 0.277 | -0.341 | -0.163 | -0.659 | 0.372 | -0.381 | 114 |
| 115 | -0.11 | -0.564 | 0.278 | -0.338 | -0.168 | -0.648 | 0.369 | -0.377 | 115 |
| 116 | -0.116 | -0.557 | 0.278 | -0.334 | -0.173 | -0.637 | 0.367 | -0.372 | 116 |
| 117 | -0.122 | -0.549 | 0.279 | -0.331 | -0.177 | -0.626 | 0.364 | -0.367 | 117 |
| 118 | -0.128 | -0.542 | 0.279 | -0.327 | -0.182 | -0.616 | 0.361 | -0.363 | 118 |
| 119 | -0.133 | -0.534 | 0.279 | -0.324 | -0.186 | -0.605 | 0.358 | -0.358 | 119 |
| 120 | -0.139 | -0.526 | 0.279 | -0.32 | -0.19 | -0.594 | 0.356 | -0.353 | 120 |
| 121 | -0.144 | -0.518 | 0.279 | -0.316 | -0.193 | -0.583 | 0.353 | -0.348 | 121 |
| 122 | -0.149 | -0.51 | 0.279 | -0.312 | -0.197 | -0.572 | 0.35 | -0.344 | 122 |
| 123 | -0.153 | -0.502 | 0.279 | -0.309 | -0.2 | -0.561 | 0.346 | -0.339 | 123 |
| 124 | -0.158 | -0.494 | 0.278 | -0.305 | -0.203 | -0.55 | 0.343 | -0.334 | 124 |
| 125 | -0.162 | -0.485 | 0.278 | -0.301 | -0.206 | -0.539 | 0.34 | -0.329 | 125 |
| 126 | -0.166 | -0.477 | 0.277 | -0.297 | -0.206 | -0.528 | 0.337 | -0.324 | 126 |
| 127 | -0.169 | -0.468 | 0.276 | -0.293 | -0.211 | -0.517 | 0.333 | -0.319 | 127 |
| 128 | -0.173 | -0.46 | 0.275 | -0.289 | -0.213 | -0.506 | 0.33 | -0.313 | 128 |
| 129 | -0.176 | -0.451 | 0.273 | -0.284 | -0.214 | -0.495 | 0.326 | -0.308 | 129 |
| 130 | -0.179 | -0.443 | 0.272 | -0.28 | -0.216 | -0.485 | 0.322 | -0.303 | 130 |
| 131 | -0.182 | -0.434 | 0.27 | -0.276 | -0.218 | -0.474 | 0.318 | -0.298 | 131 |
| 132 | -0.184 | -0.425 | 0.269 | -0.272 | -0.219 | -0.463 | 0.314 | -0.292 | 132 |
| 133 | -0.186 | -0.417 | 0.267 | -0.267 | -0.22 | -0.452 | 0.31 | -0.287 | 133 |
| 134 | -0.188 | -0.408 | 0.264 | -0.263 | -0.221 | -0.441 | 0.306 | -0.281 | 134 |
| 135 | -0.19 | -0.399 | 0.262 | -0.258 | -0.222 | -0.431 | 0.302 | -0.276 | 135 |

| $\alpha = -0.60, \beta = 0$ | | | | | $\alpha = -0.65, \beta = 0$ | | | | |
|-----------------------------|-------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 1.399 | -0.313 | 0.124 | -0.053 | 1.467 | -0.347 | 0.153 | -0.047 | 6 |
| 7 | 1.38 | -0.341 | 0.135 | -0.063 | 1.444 | -0.378 | 0.166 | -0.058 | 7 |
| 8 | 1.362 | -0.367 | 0.145 | -0.074 | 1.422 | -0.405 | 0.177 | -0.069 | 8 |
| 9 | 1.344 | -0.39 | 0.153 | -0.085 | 1.402 | -0.43 | 0.187 | -0.08 | 9 |
| 10 | 1.327 | -0.413 | 0.161 | -0.096 | 1.382 | -0.454 | 0.196 | -0.092 | 10 |
| 11 | 1.31 | -0.435 | 0.169 | -0.106 | 1.363 | -0.476 | 0.204 | -0.102 | 11 |
| 12 | 1.294 | -0.456 | 0.176 | -0.117 | 1.344 | -0.498 | 0.212 | -0.113 | 12 |
| 13 | 1.278 | -0.476 | 0.182 | -0.127 | 1.326 | -0.519 | 0.219 | -0.124 | 13 |
| 14 | 1.262 | -0.496 | 0.188 | -0.137 | 1.308 | -0.539 | 0.225 | -0.134 | 14 |
| 15 | 1.246 | -0.515 | 0.194 | -0.147 | 1.29 | -0.559 | 0.231 | -0.145 | 15 |
| 16 | 1.23 | -0.534 | 0.199 | -0.157 | 1.272 | -0.578 | 0.237 | -0.155 | 16 |
| 17 | 1.214 | -0.553 | 0.204 | -0.167 | 1.254 | -0.597 | 0.242 | -0.165 | 17 |
| 18 | 1.198 | -0.571 | 0.209 | -0.177 | 1.236 | -0.615 | 0.248 | -0.175 | 18 |
| 19 | 1.182 | -0.589 | 0.214 | -0.186 | 1.218 | -0.633 | 0.252 | -0.185 | 19 |
| 20 | 1.165 | -0.606 | 0.219 | -0.196 | 1.201 | -0.65 | 0.257 | -0.195 | 20 |
| 21 | 1.149 | -0.623 | 0.223 | -0.205 | 1.183 | -0.667 | 0.262 | -0.205 | 21 |
| 22 | 1.133 | -0.639 | 0.227 | -0.214 | 1.165 | -0.684 | 0.266 | -0.214 | 22 |
| 23 | 1.117 | -0.655 | 0.231 | -0.223 | 1.147 | -0.7 | 0.27 | -0.223 | 23 |
| 24 | 1.1 | -0.671 | 0.235 | -0.232 | 1.13 | -0.715 | 0.274 | -0.233 | 24 |
| 25 | 1.084 | -0.686 | 0.239 | -0.241 | 1.112 | -0.73 | 0.277 | -0.242 | 25 |
| 26 | 1.067 | -0.701 | 0.243 | -0.25 | 1.094 | -0.745 | 0.281 | -0.251 | 26 |
| 27 | 1.051 | -0.715 | 0.247 | -0.258 | 1.076 | -0.759 | 0.285 | -0.259 | 27 |
| 28 | 1.034 | -0.729 | 0.25 | -0.267 | 1.058 | -0.773 | 0.288 | -0.268 | 28 |
| 29 | 1.017 | -0.743 | 0.254 | -0.275 | 1.04 | -0.786 | 0.291 | -0.276 | 29 |
| 30 | 1 | -0.756 | 0.257 | -0.283 | 1.022 | -0.799 | 0.294 | -0.285 | 30 |
| 31 | 0.983 | -0.769 | 0.261 | -0.291 | 1.003 | -0.812 | 0.298 | -0.293 | 31 |
| 32 | 0.966 | -0.781 | 0.264 | -0.299 | 0.985 | -0.824 | 0.301 | -0.301 | 32 |
| 33 | 0.949 | -0.793 | 0.267 | -0.306 | 0.967 | -0.835 | 0.303 | -0.309 | 33 |
| 34 | 0.932 | -0.805 | 0.27 | -0.314 | 0.949 | -0.847 | 0.306 | -0.316 | 34 |
| 35 | 0.914 | -0.816 | 0.274 | -0.321 | 0.93 | -0.857 | 0.309 | -0.324 | 35 |
| 36 | 0.897 | -0.827 | 0.277 | -0.328 | 0.912 | -0.868 | 0.312 | -0.331 | 36 |
| 37 | 0.879 | -0.837 | 0.28 | -0.335 | 0.893 | -0.878 | 0.315 | -0.338 | 37 |
| 38 | 0.862 | -0.847 | 0.283 | -0.342 | 0.875 | -0.887 | 0.317 | -0.345 | 38 |
| 39 | 0.845 | -0.856 | 0.286 | -0.348 | 0.856 | -0.896 | 0.32 | -0.352 | 39 |
| 40 | 0.827 | -0.866 | 0.289 | -0.355 | 0.838 | -0.905 | 0.322 | -0.358 | 40 |

| $\alpha = -0.60, \beta = 0$ | | | | | $\alpha = -0.65, \beta = 0$ | | | | |
|-----------------------------|-------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.809 | -0.874 | 0.292 | -0.361 | 0.82 | -0.913 | 0.325 | -0.365 | 41 |
| 42 | 0.792 | -0.883 | 0.295 | -0.367 | 0.801 | -0.921 | 0.327 | -0.371 | 42 |
| 43 | 0.774 | -0.89 | 0.297 | -0.373 | 0.783 | -0.928 | 0.33 | -0.377 | 43 |
| 44 | 0.757 | -0.898 | 0.3 | -0.379 | 0.764 | -0.935 | 0.332 | -0.383 | 44 |
| 45 | 0.739 | -0.905 | 0.303 | -0.384 | 0.746 | -0.941 | 0.334 | -0.388 | 45 |
| 46 | 0.721 | -0.912 | 0.306 | -0.39 | 0.726 | -0.947 | 0.336 | -0.394 | 46 |
| 47 | 0.704 | -0.918 | 0.308 | -0.395 | 0.709 | -0.953 | 0.339 | -0.399 | 47 |
| 48 | 0.686 | -0.924 | 0.311 | -0.4 | 0.691 | -0.958 | 0.341 | -0.404 | 48 |
| 49 | 0.669 | -0.929 | 0.314 | -0.405 | 0.673 | -0.963 | 0.343 | -0.409 | 49 |
| 50 | 0.651 | -0.934 | 0.316 | -0.409 | 0.655 | -0.968 | 0.345 | -0.414 | 50 |
| 51 | 0.634 | -0.939 | 0.319 | -0.414 | 0.637 | -0.972 | 0.347 | -0.418 | 51 |
| 52 | 0.616 | -0.943 | 0.321 | -0.418 | 0.619 | -0.975 | 0.349 | -0.423 | 52 |
| 53 | 0.599 | -0.947 | 0.324 | -0.422 | 0.601 | -0.979 | 0.351 | -0.427 | 53 |
| 54 | 0.581 | -0.951 | 0.326 | -0.426 | 0.583 | -0.981 | 0.353 | -0.431 | 54 |
| 55 | 0.564 | -0.954 | 0.328 | -0.43 | 0.565 | -0.984 | 0.354 | -0.435 | 55 |
| 56 | 0.547 | -0.957 | 0.331 | -0.434 | 0.547 | -0.986 | 0.356 | -0.438 | 56 |
| 57 | 0.53 | -0.959 | 0.333 | -0.437 | 0.53 | -0.988 | 0.358 | -0.442 | 57 |
| 58 | 0.513 | -0.961 | 0.335 | -0.44 | 0.513 | -0.989 | 0.36 | -0.445 | 58 |
| 59 | 0.496 | -0.963 | 0.337 | -0.443 | 0.495 | -0.99 | 0.361 | -0.448 | 59 |
| 60 | 0.479 | -0.964 | 0.339 | -0.446 | 0.478 | -0.991 | 0.363 | -0.451 | 60 |
| 61 | 0.463 | -0.965 | 0.341 | -0.449 | 0.461 | -0.991 | 0.364 | -0.453 | 61 |
| 62 | 0.446 | -0.966 | 0.343 | -0.451 | 0.444 | -0.991 | 0.366 | -0.456 | 62 |
| 63 | 0.43 | -0.966 | 0.345 | -0.453 | 0.427 | -0.991 | 0.367 | -0.458 | 63 |
| 64 | 0.413 | -0.966 | 0.347 | -0.456 | 0.411 | -0.99 | 0.369 | -0.46 | 64 |
| 65 | 0.397 | -0.966 | 0.349 | -0.458 | 0.394 | -0.989 | 0.37 | -0.462 | 65 |
| 66 | 0.381 | -0.965 | 0.351 | -0.459 | 0.378 | -0.988 | 0.372 | -0.464 | 66 |
| 67 | 0.365 | -0.964 | 0.353 | -0.461 | 0.362 | -0.986 | 0.373 | -0.465 | 67 |
| 68 | 0.349 | -0.962 | 0.355 | -0.462 | 0.346 | -0.984 | 0.374 | -0.467 | 68 |
| 69 | 0.334 | -0.961 | 0.356 | -0.464 | 0.33 | -0.982 | 0.375 | -0.468 | 69 |
| 70 | 0.318 | -0.959 | 0.358 | -0.465 | 0.315 | -0.979 | 0.376 | -0.469 | 70 |
| 71 | 0.303 | -0.956 | 0.359 | -0.466 | 0.299 | -0.976 | 0.377 | -0.47 | 71 |
| 72 | 0.288 | -0.954 | 0.361 | -0.466 | 0.284 | -0.973 | 0.378 | -0.471 | 72 |
| 73 | 0.273 | -0.951 | 0.362 | -0.467 | 0.269 | -0.969 | 0.379 | -0.471 | 73 |
| 74 | 0.258 | -0.948 | 0.364 | -0.467 | 0.254 | -0.966 | 0.38 | -0.472 | 74 |
| 75 | 0.244 | -0.944 | 0.365 | -0.468 | 0.239 | -0.962 | 0.381 | -0.472 | 75 |

| $\alpha = -0.60, \beta = 0$ | | | | | $\alpha = -0.65, \beta = 0$ | | | | |
|-----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.229 | -0.94 | 0.366 | -0.468 | 0.225 | -0.957 | 0.382 | -0.472 | 76 |
| 77 | 0.215 | -0.936 | 0.367 | -0.468 | 0.211 | -0.953 | 0.383 | -0.472 | 77 |
| 78 | 0.201 | -0.932 | 0.369 | -0.467 | 0.196 | -0.948 | 0.383 | -0.472 | 78 |
| 79 | 0.187 | -0.927 | 0.37 | -0.467 | 0.183 | -0.943 | 0.384 | -0.471 | 79 |
| 80 | 0.174 | -0.923 | 0.371 | -0.467 | 0.169 | -0.938 | 0.385 | -0.47 | 80 |
| 81 | 0.16 | -0.918 | 0.372 | -0.466 | 0.155 | -0.932 | 0.385 | -0.47 | 81 |
| 82 | 0.147 | -0.912 | 0.372 | -0.465 | 0.142 | -0.926 | 0.386 | -0.469 | 82 |
| 83 | 0.134 | -0.907 | 0.373 | -0.464 | 0.129 | -0.92 | 0.386 | -0.468 | 83 |
| 84 | 0.121 | -0.901 | 0.374 | -0.463 | 0.116 | -0.914 | 0.386 | -0.467 | 84 |
| 85 | 0.109 | -0.895 | 0.375 | -0.462 | 0.104 | -0.907 | 0.387 | -0.465 | 85 |
| 86 | 0.096 | -0.889 | 0.375 | -0.46 | 0.092 | -0.901 | 0.387 | -0.464 | 86 |
| 87 | 0.084 | -0.882 | 0.376 | -0.459 | 0.079 | -0.894 | 0.387 | -0.462 | 87 |
| 88 | 0.072 | -0.876 | 0.376 | -0.457 | 0.068 | -0.887 | 0.387 | -0.461 | 88 |
| 89 | 0.06 | -0.869 | 0.377 | -0.456 | 0.056 | -0.88 | 0.387 | -0.459 | 89 |
| 90 | 0.049 | -0.862 | 0.377 | -0.454 | 0.044 | -0.872 | 0.387 | -0.457 | 90 |
| 91 | 0.038 | -0.854 | 0.377 | -0.452 | 0.033 | -0.864 | 0.387 | -0.455 | 91 |
| 92 | 0.027 | -0.847 | 0.377 | -0.45 | 0.022 | -0.857 | 0.387 | -0.453 | 92 |
| 93 | 0.016 | -0.839 | 0.377 | -0.447 | 0.012 | -0.849 | 0.387 | -0.45 | 93 |
| 94 | 0.005 | -0.832 | 0.377 | -0.445 | 0.001 | -0.841 | 0.386 | -0.448 | 94 |
| 95 | -0.005 | -0.824 | 0.377 | -0.442 | -0.009 | -0.832 | 0.386 | -0.445 | 95 |
| 96 | -0.015 | -0.816 | 0.377 | -0.44 | -0.019 | -0.824 | 0.385 | -0.443 | 96 |
| 97 | -0.025 | -0.807 | 0.377 | -0.437 | -0.029 | -0.815 | 0.385 | -0.44 | 97 |
| 98 | -0.034 | -0.799 | 0.376 | -0.434 | -0.038 | -0.806 | 0.384 | -0.437 | 98 |
| 99 | -0.044 | -0.79 | 0.376 | -0.431 | -0.048 | -0.798 | 0.383 | -0.434 | 99 |
| 100 | -0.053 | -0.781 | 0.375 | -0.428 | -0.057 | -0.788 | 0.383 | -0.431 | 100 |
| 101 | -0.062 | -0.773 | 0.375 | -0.425 | -0.065 | -0.779 | 0.382 | -0.427 | 101 |
| 102 | -0.07 | -0.764 | 0.374 | -0.422 | -0.074 | -0.77 | 0.381 | -0.424 | 102 |
| 103 | -0.079 | -0.754 | 0.373 | -0.418 | -0.082 | -0.761 | 0.38 | -0.421 | 103 |
| 104 | -0.087 | -0.745 | 0.372 | -0.415 | -0.09 | -0.751 | 0.379 | -0.417 | 104 |
| 105 | -0.095 | -0.736 | 0.371 | -0.411 | -0.098 | -0.742 | 0.377 | -0.414 | 105 |
| 106 | -0.102 | -0.726 | 0.37 | -0.408 | -0.106 | -0.732 | 0.376 | -0.41 | 106 |
| 107 | -0.11 | -0.717 | 0.369 | -0.404 | -0.113 | -0.722 | 0.375 | -0.406 | 107 |
| 108 | -0.117 | -0.707 | 0.368 | -0.4 | -0.12 | -0.712 | 0.373 | -0.402 | 108 |
| 109 | -0.124 | -0.697 | 0.366 | -0.396 | -0.127 | -0.702 | 0.372 | -0.398 | 109 |
| 110 | -0.13 | -0.687 | 0.365 | -0.393 | -0.133 | -0.692 | 0.37 | -0.394 | 110 |

| $\alpha = -0.60, \beta = 0$ | | | | | $\alpha = -0.65, \beta = 0$ | | | | |
|-----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.137 | -0.677 | 0.364 | -0.389 | -0.14 | -0.682 | 0.368 | -0.39 | 111 |
| 112 | -0.143 | -0.667 | 0.362 | -0.384 | -0.146 | -0.672 | 0.366 | -0.386 | 112 |
| 113 | -0.149 | -0.657 | 0.36 | -0.38 | -0.151 | -0.661 | 0.365 | -0.382 | 113 |
| 114 | -0.154 | -0.647 | 0.358 | -0.376 | -0.157 | -0.651 | 0.363 | -0.378 | 114 |
| 115 | -0.16 | -0.637 | 0.356 | -0.372 | -0.162 | -0.641 | 0.361 | -0.373 | 115 |
| 116 | -0.165 | -0.627 | 0.354 | -0.367 | -0.167 | -0.63 | 0.358 | -0.369 | 116 |
| 117 | -0.17 | -0.616 | 0.352 | -0.363 | -0.172 | -0.62 | 0.356 | -0.364 | 117 |
| 118 | -0.174 | -0.606 | 0.35 | -0.358 | -0.177 | -0.609 | 0.354 | -0.36 | 118 |
| 119 | -0.179 | -0.596 | 0.348 | -0.354 | -0.181 | -0.598 | 0.351 | -0.355 | 119 |
| 120 | -0.183 | -0.585 | 0.345 | -0.349 | -0.185 | -0.588 | 0.349 | -0.351 | 120 |
| 121 | -0.187 | -0.575 | 0.343 | -0.345 | -0.189 | -0.577 | 0.346 | -0.346 | 121 |
| 122 | -0.19 | -0.564 | 0.34 | -0.34 | -0.193 | -0.567 | 0.343 | -0.341 | 122 |
| 123 | -0.194 | -0.553 | 0.338 | -0.335 | -0.196 | -0.556 | 0.34 | -0.336 | 123 |
| 124 | -0.197 | -0.543 | 0.335 | -0.33 | -0.199 | -0.545 | 0.338 | -0.331 | 124 |
| 125 | -0.2 | -0.532 | 0.332 | -0.325 | -0.202 | -0.535 | 0.335 | -0.326 | 125 |
| 126 | -0.203 | -0.522 | 0.329 | -0.32 | -0.205 | -0.524 | 0.331 | -0.322 | 126 |
| 127 | -0.205 | -0.511 | 0.326 | -0.316 | -0.207 | -0.513 | 0.328 | -0.317 | 127 |
| 128 | -0.208 | -0.501 | 0.323 | -0.311 | -0.209 | -0.502 | 0.325 | -0.311 | 128 |
| 129 | -0.21 | -0.49 | 0.319 | -0.305 | -0.211 | -0.492 | 0.321 | -0.306 | 129 |
| 130 | -0.211 | -0.479 | 0.316 | -0.3 | -0.213 | -0.481 | 0.318 | -0.301 | 130 |
| 131 | -0.213 | -0.469 | 0.312 | -0.295 | -0.215 | -0.471 | 0.314 | -0.296 | 131 |
| 132 | -0.214 | -0.458 | 0.309 | -0.29 | -0.216 | -0.46 | 0.311 | -0.291 | 132 |
| 133 | -0.216 | -0.448 | 0.305 | -0.285 | -0.217 | -0.449 | 0.307 | -0.285 | 133 |
| 134 | -0.217 | -0.438 | 0.301 | -0.279 | -0.218 | -0.439 | 0.303 | -0.28 | 134 |
| 135 | -0.218 | -0.427 | 0.297 | -0.274 | -0.219 | -0.428 | 0.299 | -0.275 | 135 |

| $\alpha = -0.67, \beta = 0$ | | | | | $\alpha = -0.70, \beta = 0$ | | | | |
|-----------------------------|-------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 1.497 | -0.361 | 0.167 | -0.043 | 1.547 | -0.385 | 0.19 | -0.037 | 6 |
| 7 | 1.473 | -0.394 | 0.18 | -0.055 | 1.52 | -0.419 | 0.205 | -0.049 | 7 |
| 8 | 1.45 | -0.422 | 0.192 | -0.066 | 1.494 | -0.45 | 0.218 | -0.061 | 8 |
| 9 | 1.428 | -0.448 | 0.203 | -0.078 | 1.47 | -0.477 | 0.23 | -0.072 | 9 |
| 10 | 1.407 | -0.472 | 0.212 | -0.089 | 1.448 | -0.502 | 0.24 | -0.084 | 10 |
| 11 | 1.387 | -0.495 | 0.221 | -0.1 | 1.425 | -0.526 | 0.249 | -0.095 | 11 |
| 12 | 1.367 | -0.517 | 0.229 | -0.111 | 1.404 | -0.549 | 0.258 | -0.107 | 12 |
| 13 | 1.347 | -0.538 | 0.236 | -0.122 | 1.383 | -0.57 | 0.265 | -0.118 | 13 |
| 14 | 1.328 | -0.559 | 0.243 | -0.133 | 1.362 | -0.591 | 0.272 | -0.129 | 14 |
| 15 | 1.309 | -0.579 | 0.249 | -0.143 | 1.342 | -0.611 | 0.278 | -0.14 | 15 |
| 16 | 1.291 | -0.598 | 0.255 | -0.154 | 1.322 | -0.631 | 0.284 | -0.151 | 16 |
| 17 | 1.272 | -0.617 | 0.26 | -0.164 | 1.301 | -0.65 | 0.29 | -0.161 | 17 |
| 18 | 1.253 | -0.635 | 0.265 | -0.174 | 1.282 | -0.669 | 0.295 | -0.172 | 18 |
| 19 | 1.235 | -0.653 | 0.27 | -0.184 | 1.262 | -0.686 | 0.3 | -0.182 | 19 |
| 20 | 1.216 | -0.671 | 0.275 | -0.194 | 1.242 | -0.704 | 0.305 | -0.192 | 20 |
| 21 | 1.198 | -0.687 | 0.279 | -0.204 | 1.222 | -0.721 | 0.309 | -0.202 | 21 |
| 22 | 1.179 | -0.704 | 0.284 | -0.214 | 1.203 | -0.737 | 0.314 | -0.212 | 22 |
| 23 | 1.161 | -0.72 | 0.288 | -0.223 | 1.183 | -0.753 | 0.317 | -0.222 | 23 |
| 24 | 1.143 | -0.735 | 0.291 | -0.232 | 1.164 | -0.768 | 0.321 | -0.231 | 24 |
| 25 | 1.124 | -0.75 | 0.295 | -0.242 | 1.144 | -0.783 | 0.325 | -0.241 | 25 |
| 26 | 1.106 | -0.765 | 0.299 | -0.251 | 1.125 | -0.797 | 0.328 | -0.25 | 26 |
| 27 | 1.087 | -0.779 | 0.302 | -0.259 | 1.105 | -0.811 | 0.331 | -0.259 | 27 |
| 28 | 1.068 | -0.793 | 0.305 | -0.268 | 1.086 | -0.825 | 0.334 | -0.268 | 28 |
| 29 | 1.05 | -0.806 | 0.308 | -0.277 | 1.066 | -0.838 | 0.337 | -0.277 | 29 |
| 30 | 1.031 | -0.819 | 0.311 | -0.285 | 1.046 | -0.85 | 0.34 | -0.285 | 30 |
| 31 | 1.012 | -0.831 | 0.314 | -0.293 | 1.027 | -0.862 | 0.342 | -0.294 | 31 |
| 32 | 0.994 | -0.843 | 0.317 | -0.301 | 1.007 | -0.874 | 0.345 | -0.302 | 32 |
| 33 | 0.975 | -0.854 | 0.32 | -0.309 | 0.988 | -0.885 | 0.347 | -0.31 | 33 |
| 34 | 0.956 | -0.865 | 0.323 | -0.317 | 0.968 | -0.896 | 0.35 | -0.318 | 34 |
| 35 | 0.937 | -0.876 | 0.325 | -0.325 | 0.948 | -0.906 | 0.352 | -0.326 | 35 |
| 36 | 0.918 | -0.886 | 0.328 | -0.332 | 0.929 | -0.916 | 0.354 | -0.333 | 36 |
| 37 | 0.899 | -0.896 | 0.33 | -0.339 | 0.909 | -0.925 | 0.356 | -0.34 | 37 |
| 38 | 0.881 | -0.905 | 0.333 | -0.346 | 0.89 | -0.934 | 0.358 | -0.348 | 38 |
| 39 | 0.862 | -0.914 | 0.335 | -0.353 | 0.87 | -0.942 | 0.36 | -0.355 | 39 |
| 40 | 0.843 | -0.922 | 0.337 | -0.36 | 0.85 | -0.95 | 0.362 | -0.361 | 40 |

| $\alpha = -0.67, \beta = 0$ | | | | | $\alpha = -0.70, \beta = 0$ | | | | |
|-----------------------------|-------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.824 | -0.93 | 0.34 | -0.366 | 0.831 | -0.958 | 0.364 | -0.368 | 41 |
| 42 | 0.805 | -0.937 | 0.342 | -0.372 | 0.812 | -0.965 | 0.366 | -0.374 | 42 |
| 43 | 0.786 | -0.945 | 0.344 | -0.378 | 0.792 | -0.971 | 0.367 | -0.381 | 43 |
| 44 | 0.768 | -0.951 | 0.346 | -0.384 | 0.773 | -0.977 | 0.369 | -0.387 | 44 |
| 45 | 0.749 | -0.957 | 0.348 | -0.39 | 0.754 | -0.983 | 0.371 | -0.392 | 45 |
| 46 | 0.73 | -0.963 | 0.35 | -0.396 | 0.734 | -0.988 | 0.372 | -0.398 | 46 |
| 47 | 0.712 | -0.968 | 0.352 | -0.401 | 0.715 | -0.993 | 0.374 | -0.403 | 47 |
| 48 | 0.693 | -0.973 | 0.354 | -0.406 | 0.696 | -0.998 | 0.375 | -0.409 | 48 |
| 49 | 0.675 | -0.978 | 0.356 | -0.411 | 0.677 | -1.002 | 0.377 | -0.414 | 49 |
| 50 | 0.656 | -0.982 | 0.358 | -0.416 | 0.658 | -1.005 | 0.378 | -0.418 | 50 |
| 51 | 0.638 | -0.986 | 0.359 | -0.42 | 0.64 | -1.009 | 0.379 | -0.423 | 51 |
| 52 | 0.62 | -0.989 | 0.361 | -0.425 | 0.621 | -1.012 | 0.381 | -0.427 | 52 |
| 53 | 0.601 | -0.992 | 0.363 | -0.429 | 0.602 | -1.014 | 0.382 | -0.432 | 53 |
| 54 | 0.583 | -0.995 | 0.364 | -0.433 | 0.584 | -1.016 | 0.383 | -0.436 | 54 |
| 55 | 0.565 | -0.997 | 0.366 | -0.437 | 0.566 | -1.018 | 0.384 | -0.439 | 55 |
| 56 | 0.548 | -0.999 | 0.367 | -0.44 | 0.548 | -1.019 | 0.385 | -0.443 | 56 |
| 57 | 0.53 | -1 | 0.369 | -0.444 | 0.53 | -1.02 | 0.386 | -0.446 | 57 |
| 58 | 0.512 | -1.001 | 0.37 | -0.447 | 0.512 | -1.021 | 0.387 | -0.45 | 58 |
| 59 | 0.495 | -1.002 | 0.372 | -0.45 | 0.494 | -1.021 | 0.388 | -0.453 | 59 |
| 60 | 0.477 | -1.002 | 0.373 | -0.453 | 0.476 | -1.021 | 0.389 | -0.456 | 60 |
| 61 | 0.46 | -1.002 | 0.374 | -0.455 | 0.459 | -1.02 | 0.39 | -0.458 | 61 |
| 62 | 0.443 | -1.002 | 0.376 | -0.458 | 0.442 | -1.019 | 0.391 | -0.461 | 62 |
| 63 | 0.426 | -1.001 | 0.377 | -0.46 | 0.425 | -1.018 | 0.392 | -0.463 | 63 |
| 64 | 0.41 | -1 | 0.378 | -0.462 | 0.408 | -1.017 | 0.393 | -0.465 | 64 |
| 65 | 0.393 | -0.999 | 0.379 | -0.464 | 0.391 | -1.015 | 0.394 | -0.467 | 65 |
| 66 | 0.377 | -0.997 | 0.38 | -0.466 | 0.375 | -1.013 | 0.394 | -0.469 | 66 |
| 67 | 0.361 | -0.995 | 0.381 | -0.467 | 0.358 | -1.01 | 0.395 | -0.47 | 67 |
| 68 | 0.344 | -0.993 | 0.382 | -0.469 | 0.342 | -1.008 | 0.396 | -0.472 | 68 |
| 69 | 0.329 | -0.991 | 0.383 | -0.47 | 0.326 | -1.005 | 0.396 | -0.473 | 69 |
| 70 | 0.313 | -0.988 | 0.384 | -0.471 | 0.31 | -1.001 | 0.397 | -0.474 | 70 |
| 71 | 0.297 | -0.984 | 0.385 | -0.472 | 0.295 | -0.998 | 0.397 | -0.475 | 71 |
| 72 | 0.282 | -0.981 | 0.386 | -0.473 | 0.279 | -0.994 | 0.398 | -0.475 | 72 |
| 73 | 0.267 | -0.977 | 0.387 | -0.473 | 0.264 | -0.99 | 0.398 | -0.476 | 73 |
| 74 | 0.252 | -0.973 | 0.387 | -0.473 | 0.249 | -0.985 | 0.399 | -0.476 | 74 |
| 75 | 0.237 | -0.969 | 0.388 | -0.474 | 0.234 | -0.981 | 0.399 | -0.476 | 75 |

| $\alpha = -0.67, \beta = 0$ | | | | | $\alpha = -0.70, \beta = 0$ | | | | |
|-----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.223 | -0.964 | 0.389 | -0.474 | 0.22 | -0.976 | 0.399 | -0.476 | 76 |
| 77 | 0.209 | -0.96 | 0.389 | -0.473 | 0.205 | -0.97 | 0.399 | -0.476 | 77 |
| 78 | 0.194 | -0.955 | 0.39 | -0.473 | 0.191 | -0.965 | 0.4 | -0.476 | 78 |
| 79 | 0.181 | -0.949 | 0.39 | -0.473 | 0.177 | -0.959 | 0.4 | -0.475 | 79 |
| 80 | 0.167 | -0.944 | 0.391 | -0.472 | 0.164 | -0.953 | 0.4 | -0.475 | 80 |
| 81 | 0.153 | -0.938 | 0.391 | -0.471 | 0.15 | -0.947 | 0.4 | -0.474 | 81 |
| 82 | 0.14 | -0.932 | 0.391 | -0.47 | 0.137 | -0.941 | 0.4 | -0.473 | 82 |
| 83 | 0.127 | -0.926 | 0.392 | -0.469 | 0.124 | -0.934 | 0.4 | -0.472 | 83 |
| 84 | 0.114 | -0.919 | 0.392 | -0.468 | 0.111 | -0.928 | 0.4 | -0.471 | 84 |
| 85 | 0.102 | -0.913 | 0.392 | -0.467 | 0.099 | -0.921 | 0.4 | -0.469 | 85 |
| 86 | 0.09 | -0.906 | 0.392 | -0.465 | 0.086 | -0.914 | 0.4 | -0.468 | 86 |
| 87 | 0.077 | -0.899 | 0.392 | -0.464 | 0.074 | -0.906 | 0.399 | -0.466 | 87 |
| 118 | 0.066 | -0.892 | 0.392 | -0.462 | 0.062 | -0.899 | 0.399 | -0.464 | 88 |
| 89 | 0.054 | -0.884 | 0.392 | -0.46 | 0.051 | -0.891 | 0.399 | -0.462 | 89 |
| 90 | 0.042 | -0.876 | 0.392 | -0.458 | 0.039 | -0.883 | 0.398 | -0.46 | 90 |
| 91 | 0.031 | -0.869 | 0.391 | -0.456 | 0.028 | -0.875 | 0.398 | -0.458 | 91 |
| 92 | 0.02 | -0.861 | 0.391 | -0.454 | 0.017 | -0.867 | 0.397 | -0.456 | 92 |
| 93 | 0.01 | -0.853 | 0.391 | -0.451 | 0.007 | -0.858 | 0.397 | -0.453 | 93 |
| 94 | -0.001 | -0.844 | 0.39 | -0.449 | -0.004 | -0.85 | 0.396 | -0.451 | 94 |
| 95 | -0.011 | -0.836 | 0.39 | -0.446 | -0.014 | -0.841 | 0.395 | -0.448 | 95 |
| 96 | -0.021 | -0.827 | 0.389 | -0.444 | -0.024 | -0.832 | 0.394 | -0.445 | 96 |
| 97 | -0.031 | -0.818 | 0.388 | -0.441 | -0.033 | -0.823 | 0.393 | -0.443 | 97 |
| 98 | -0.04 | -0.81 | 0.387 | -0.438 | -0.043 | -0.814 | 0.392 | -0.44 | 98 |
| 99 | -0.049 | -0.801 | 0.387 | -0.435 | -0.052 | -0.805 | 0.391 | -0.436 | 99 |
| 100 | -0.058 | -0.791 | 0.386 | -0.432 | -0.061 | -0.796 | 0.39 | -0.433 | 100 |
| 101 | -0.067 | -0.782 | 0.385 | -0.428 | -0.07 | -0.786 | 0.389 | -0.43 | 101 |
| 102 | -0.076 | -0.773 | 0.384 | -0.425 | -0.078 | -0.777 | 0.388 | -0.427 | 102 |
| 103 | -0.084 | -0.763 | 0.382 | -0.422 | -0.086 | -0.767 | 0.387 | -0.423 | 103 |
| 104 | -0.092 | -0.754 | 0.381 | -0.418 | -0.094 | -0.757 | 0.385 | -0.42 | 104 |
| 105 | -0.1 | -0.744 | 0.38 | -0.415 | -0.102 | -0.747 | 0.384 | -0.416 | 105 |
| 106 | -0.107 | -0.734 | 0.379 | -0.411 | -0.109 | -0.737 | 0.382 | -0.412 | 106 |
| 107 | -0.114 | -0.724 | 0.377 | -0.407 | -0.116 | -0.727 | 0.381 | -0.408 | 107 |
| 108 | -0.121 | -0.714 | 0.375 | -0.403 | -0.123 | -0.717 | 0.379 | -0.404 | 108 |
| 109 | -0.128 | -0.704 | 0.374 | -0.399 | -0.13 | -0.707 | 0.377 | -0.4 | 109 |
| 110 | -0.135 | -0.694 | 0.372 | -0.395 | -0.137 | -0.697 | 0.375 | -0.396 | 110 |

| $\alpha = -0.67, \beta = 0$ | | | | | $\alpha = -0.70, \beta = 0$ | | | | |
|-----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.141 | -0.684 | 0.37 | -0.391 | -0.143 | -0.686 | 0.373 | -0.392 | 111 |
| 112 | -0.147 | -0.673 | 0.368 | -0.387 | -0.149 | -0.676 | 0.371 | -0.388 | 112 |
| 113 | -0.153 | -0.663 | 0.366 | -0.383 | -0.154 | -0.665 | 0.369 | -0.384 | 113 |
| 114 | -0.158 | -0.653 | 0.364 | -0.378 | -0.16 | -0.655 | 0.367 | -0.379 | 114 |
| 115 | -0.163 | -0.642 | 0.362 | -0.374 | -0.165 | -0.644 | 0.365 | -0.375 | 115 |
| 116 | -0.168 | -0.632 | 0.36 | -0.369 | -0.17 | -0.634 | 0.362 | -0.37 | 116 |
| 117 | -0.173 | -0.621 | 0.358 | -0.365 | -0.175 | -0.623 | 0.36 | -0.366 | 117 |
| 118 | -0.178 | -0.61 | 0.355 | -0.36 | -0.179 | -0.612 | 0.357 | -0.361 | 118 |
| 119 | -0.182 | -0.6 | 0.353 | -0.356 | -0.183 | -0.602 | 0.355 | -0.357 | 119 |
| 120 | -0.186 | -0.589 | 0.35 | -0.351 | -0.187 | -0.591 | 0.352 | -0.352 | 120 |
| 121 | -0.19 | -0.578 | 0.347 | -0.346 | -0.191 | -0.58 | 0.349 | -0.347 | 121 |
| 122 | -0.193 | -0.568 | 0.345 | -0.342 | -0.195 | -0.569 | 0.346 | -0.342 | 122 |
| 123 | -0.197 | -0.557 | 0.342 | -0.337 | -0.198 | -0.558 | 0.343 | -0.337 | 123 |
| 124 | -0.2 | -0.546 | 0.339 | -0.332 | -0.201 | -0.548 | 0.34 | -0.333 | 124 |
| 125 | -0.203 | -0.535 | 0.336 | -0.327 | -0.204 | -0.537 | 0.337 | -0.328 | 125 |
| 126 | -0.205 | -0.525 | 0.332 | -0.322 | -0.206 | -0.526 | 0.334 | -0.323 | 126 |
| 127 | -0.208 | -0.514 | 0.329 | -0.317 | -0.209 | -0.515 | 0.331 | -0.318 | 127 |
| 128 | -0.21 | -0.503 | 0.326 | -0.312 | -0.211 | -0.504 | 0.327 | -0.312 | 128 |
| 129 | -0.212 | -0.493 | 0.322 | -0.307 | -0.213 | -0.494 | 0.324 | -0.307 | 129 |
| 130 | -0.214 | -0.482 | 0.319 | -0.302 | -0.215 | -0.483 | 0.32 | -0.302 | 130 |
| 131 | -0.215 | -0.471 | 0.315 | -0.296 | -0.216 | -0.472 | 0.316 | -0.297 | 131 |
| 132 | -0.216 | -0.461 | 0.311 | -0.291 | -0.217 | -0.461 | 0.313 | -0.292 | 132 |
| 133 | -0.218 | -0.45 | 0.308 | -0.286 | -0.218 | -0.451 | 0.309 | -0.286 | 133 |
| 134 | -0.219 | -0.439 | 0.304 | -0.28 | -0.219 | -0.44 | 0.305 | -0.281 | 134 |
| 135 | -0.22 | -0.429 | 0.299 | -0.275 | -0.22 | -0.43 | 0.3 | -0.275 | 135 |

| $\alpha = 0, \beta = 0.25$ | | | | | $\alpha = 0, \beta = -0.25$ | | | | |
|----------------------------|-------|--------|-------|--------|-----------------------------|--------|--------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.966 | 0.101 | 0.006 | -0.039 | 0.923 | -0.28 | -0.005 | -0.063 | 6 |
| 7 | 0.968 | 0.072 | 0.007 | -0.046 | 0.921 | -0.283 | -0.005 | -0.073 | 7 |
| 8 | 0.97 | 0.044 | 0.008 | -0.053 | 0.918 | -0.289 | -0.004 | -0.083 | 8 |
| 9 | 0.971 | 0.017 | 0.009 | -0.059 | 0.915 | -0.295 | -0.004 | -0.093 | 9 |
| 10 | 0.971 | -0.008 | 0.01 | -0.066 | 0.912 | -0.303 | -0.003 | -0.103 | 10 |
| 11 | 0.971 | -0.033 | 0.011 | -0.073 | 0.908 | -0.311 | -0.001 | -0.113 | 11 |
| 12 | 0.97 | -0.057 | 0.012 | -0.079 | 0.904 | -0.32 | 0 | -0.123 | 12 |
| 13 | 0.968 | -0.08 | 0.013 | -0.086 | 0.9 | -0.329 | 0.002 | -0.133 | 13 |
| 14 | 0.965 | -0.103 | 0.014 | -0.093 | 0.895 | -0.339 | 0.004 | -0.143 | 14 |
| 15 | 0.962 | -0.126 | 0.015 | -0.1 | 0.89 | -0.348 | 0.006 | -0.152 | 15 |
| 16 | 0.959 | -0.147 | 0.017 | -0.106 | 0.885 | -0.359 | 0.008 | -0.162 | 16 |
| 17 | 0.955 | -0.169 | 0.018 | -0.113 | 0.879 | -0.369 | 0.01 | -0.171 | 17 |
| 18 | 0.95 | -0.19 | 0.02 | -0.12 | 0.873 | -0.379 | 0.013 | -0.181 | 18 |
| 19 | 0.945 | -0.211 | 0.021 | -0.126 | 0.867 | -0.39 | 0.016 | -0.19 | 19 |
| 20 | 0.94 | -0.231 | 0.023 | -0.133 | 0.861 | -0.401 | 0.019 | -0.199 | 20 |
| 21 | 0.934 | -0.251 | 0.024 | -0.139 | 0.855 | -0.411 | 0.022 | -0.208 | 21 |
| 22 | 0.928 | -0.27 | 0.026 | -0.146 | 0.848 | -0.422 | 0.025 | -0.217 | 22 |
| 23 | 0.921 | -0.289 | 0.028 | -0.153 | 0.841 | -0.433 | 0.028 | -0.225 | 23 |
| 24 | 0.914 | -0.308 | 0.03 | -0.159 | 0.834 | -0.444 | 0.032 | -0.234 | 24 |
| 25 | 0.906 | -0.327 | 0.032 | -0.165 | 0.826 | -0.454 | 0.035 | -0.242 | 25 |
| 26 | 0.899 | -0.345 | 0.034 | -0.172 | 0.819 | -0.465 | 0.039 | -0.25 | 26 |
| 27 | 0.89 | -0.363 | 0.036 | -0.178 | 0.811 | -0.476 | 0.043 | -0.259 | 27 |
| 28 | 0.882 | -0.38 | 0.038 | -0.184 | 0.803 | -0.486 | 0.047 | -0.267 | 28 |
| 29 | 0.873 | -0.397 | 0.04 | -0.191 | 0.794 | -0.496 | 0.051 | -0.275 | 29 |
| 30 | 0.864 | -0.414 | 0.042 | -0.197 | 0.786 | -0.507 | 0.055 | -0.282 | 30 |
| 31 | 0.854 | -0.43 | 0.044 | -0.203 | 0.777 | -0.517 | 0.06 | -0.29 | 31 |
| 32 | 0.844 | -0.446 | 0.047 | -0.209 | 0.768 | -0.527 | 0.064 | -0.297 | 32 |
| 33 | 0.834 | -0.462 | 0.049 | -0.215 | 0.759 | -0.537 | 0.069 | -0.304 | 33 |
| 34 | 0.823 | -0.477 | 0.052 | -0.221 | 0.75 | -0.547 | 0.073 | -0.311 | 34 |
| 35 | 0.813 | -0.492 | 0.054 | -0.227 | 0.74 | -0.556 | 0.078 | -0.318 | 35 |
| 36 | 0.802 | -0.507 | 0.057 | -0.232 | 0.731 | -0.566 | 0.083 | -0.325 | 36 |
| 37 | 0.79 | -0.521 | 0.059 | -0.238 | 0.721 | -0.575 | 0.088 | -0.332 | 37 |
| 38 | 0.779 | -0.535 | 0.062 | -0.244 | 0.711 | -0.584 | 0.092 | -0.338 | 38 |
| 39 | 0.767 | -0.549 | 0.065 | -0.249 | 0.701 | -0.593 | 0.097 | -0.344 | 39 |
| 40 | 0.755 | -0.562 | 0.068 | -0.254 | 0.691 | -0.602 | 0.103 | -0.35 | 40 |

| $\alpha = 0, \beta = 0.25$ | | | | | $\alpha = 0, \beta = -0.25$ | | | | |
|----------------------------|-------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.743 | -0.575 | 0.07 | -0.26 | 0.68 | -0.611 | 0.108 | -0.356 | 41 |
| 42 | 0.73 | -0.587 | 0.073 | -0.265 | 0.669 | -0.619 | 0.113 | -0.362 | 42 |
| 43 | 0.718 | -0.599 | 0.076 | -0.27 | 0.659 | -0.627 | 0.118 | -0.367 | 43 |
| 44 | 0.705 | -0.611 | 0.079 | -0.275 | 0.648 | -0.635 | 0.123 | -0.373 | 44 |
| 45 | 0.692 | -0.622 | 0.082 | -0.28 | 0.637 | -0.643 | 0.129 | -0.378 | 45 |
| 46 | 0.679 | -0.633 | 0.085 | -0.285 | 0.626 | -0.651 | 0.134 | -0.383 | 46 |
| 47 | 0.665 | -0.644 | 0.088 | -0.29 | 0.614 | -0.658 | 0.139 | -0.388 | 47 |
| 48 | 0.652 | -0.654 | 0.091 | -0.294 | 0.603 | -0.665 | 0.145 | -0.392 | 48 |
| 49 | 0.638 | -0.664 | 0.095 | -0.299 | 0.592 | -0.672 | 0.15 | -0.397 | 49 |
| 50 | 0.624 | -0.673 | 0.098 | -0.303 | 0.58 | -0.679 | 0.156 | -0.401 | 50 |
| 51 | 0.61 | -0.682 | 0.101 | -0.308 | 0.568 | -0.685 | 0.161 | -0.405 | 51 |
| 52 | 0.597 | -0.691 | 0.104 | -0.312 | 0.556 | -0.691 | 0.166 | -0.409 | 52 |
| 53 | 0.582 | -0.699 | 0.108 | -0.316 | 0.545 | -0.697 | 0.172 | -0.413 | 53 |
| 54 | 0.568 | -0.707 | 0.111 | -0.32 | 0.533 | -0.703 | 0.177 | -0.417 | 54 |
| 55 | 0.554 | -0.714 | 0.114 | -0.324 | 0.521 | -0.708 | 0.183 | -0.42 | 55 |
| 56 | 0.54 | -0.722 | 0.117 | -0.328 | 0.508 | -0.713 | 0.188 | -0.423 | 56 |
| 57 | 0.525 | -0.728 | 0.121 | -0.331 | 0.496 | -0.718 | 0.194 | -0.426 | 57 |
| 58 | 0.511 | -0.735 | 0.124 | -0.335 | 0.484 | -0.723 | 0.199 | -0.429 | 38 |
| 59 | 0.496 | -0.741 | 0.128 | -0.338 | 0.472 | -0.727 | 0.204 | -0.432 | 59 |
| 60 | 0.482 | -0.746 | 0.131 | -0.342 | 0.46 | -0.731 | 0.21 | -0.434 | 60 |
| 61 | 0.467 | -0.752 | 0.134 | -0.345 | 0.447 | -0.735 | 0.215 | -0.437 | 61 |
| 62 | 0.453 | -0.756 | 0.138 | -0.348 | 0.435 | -0.739 | 0.22 | -0.439 | 62 |
| 63 | 0.438 | -0.761 | 0.141 | -0.351 | 0.423 | -0.742 | 0.225 | -0.441 | 63 |
| 64 | 0.423 | -0.765 | 0.144 | -0.354 | 0.41 | -0.745 | 0.231 | -0.442 | 64 |
| 65 | 0.409 | -0.769 | 0.148 | -0.356 | 0.398 | -0.748 | 0.236 | -0.444 | 65 |
| 66 | 0.394 | -0.772 | 0.151 | -0.359 | 0.385 | -0.75 | 0.241 | -0.446 | 66 |
| 67 | 0.38 | -0.775 | 0.154 | -0.361 | 0.373 | -0.753 | 0.246 | -0.447 | 67 |
| 68 | 0.365 | -0.778 | 0.158 | -0.364 | 0.361 | -0.755 | 0.251 | -0.448 | 68 |
| 69 | 0.351 | -0.78 | 0.161 | -0.366 | 0.348 | -0.756 | 0.255 | -0.449 | 69 |
| 70 | 0.336 | -0.782 | 0.164 | -0.368 | 0.336 | -0.758 | 0.26 | -0.45 | 70 |
| 71 | 0.322 | -0.784 | 0.168 | -0.37 | 0.324 | -0.759 | 0.265 | -0.45 | 71 |
| 72 | 0.308 | -0.785 | 0.171 | -0.372 | 0.312 | -0.76 | 0.27 | -0.451 | 72 |
| 73 | 0.294 | -0.786 | 0.174 | -0.374 | 0.299 | -0.761 | 0.274 | -0.451 | 73 |
| 74 | 0.28 | -0.787 | 0.177 | -0.375 | 0.287 | -0.761 | 0.279 | -0.451 | 74 |
| 75 | 0.266 | -0.787 | 0.18 | -0.377 | 0.275 | -0.761 | 0.283 | -0.451 | 75 |

| $\alpha = 0, \beta = 0.25$ | | | | | $\alpha = 0, \beta = -0.25$ | | | | |
|----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.252 | -0.787 | 0.184 | -0.378 | 0.263 | -0.761 | 0.287 | -0.451 | 76 |
| 77 | 0.238 | -0.786 | 0.187 | -0.379 | 0.251 | -0.761 | 0.292 | -0.451 | 77 |
| 78 | 0.224 | -0.785 | 0.19 | -0.38 | 0.239 | -0.76 | 0.296 | -0.45 | 78 |
| 79 | 0.211 | -0.784 | 0.193 | -0.381 | 0.227 | -0.759 | 0.3 | -0.45 | 79 |
| 80 | 0.197 | -0.783 | 0.196 | -0.382 | 0.216 | -0.758 | 0.303 | -0.449 | 80 |
| 81 | 0.184 | -0.781 | 0.199 | -0.383 | 0.204 | -0.757 | 0.307 | -0.448 | 81 |
| 82 | 0.171 | -0.779 | 0.201 | -0.383 | 0.192 | -0.755 | 0.311 | -0.447 | 82 |
| 83 | 0.158 | -0.777 | 0.204 | -0.384 | 0.181 | -0.753 | 0.314 | -0.446 | 83 |
| 84 | 0.145 | -0.774 | 0.207 | -0.384 | 0.169 | -0.751 | 0.318 | -0.444 | 84 |
| 85 | 0.132 | -0.772 | 0.21 | -0.384 | 0.158 | -0.749 | 0.321 | -0.443 | 85 |
| 86 | 0.12 | -0.768 | 0.213 | -0.384 | 0.147 | -0.746 | 0.324 | -0.441 | 86 |
| 87 | 0.108 | -0.765 | 0.215 | -0.384 | 0.136 | -0.743 | 0.327 | -0.44 | 87 |
| 88 | 0.095 | -0.761 | 0.218 | -0.384 | 0.125 | -0.74 | 0.33 | -0.438 | 88 |
| 89 | 0.083 | -0.757 | 0.22 | -0.384 | 0.114 | -0.737 | 0.333 | -0.436 | 89 |
| 90 | 0.072 | -0.753 | 0.223 | -0.383 | 0.104 | -0.733 | 0.336 | -0.434 | 90 |
| 91 | 0.06 | -0.749 | 0.225 | -0.383 | 0.093 | -0.729 | 0.338 | -0.431 | 91 |
| 92 | 0.049 | -0.744 | 0.227 | -0.382 | 0.083 | -0.725 | 0.341 | -0.429 | 92 |
| 93 | 0.037 | -0.739 | 0.23 | -0.381 | 0.073 | -0.721 | 0.343 | -0.427 | 93 |
| 94 | 0.026 | -0.734 | 0.232 | -0.381 | 0.063 | -0.717 | 0.345 | -0.424 | 94 |
| 95 | 0.016 | -0.728 | 0.234 | -0.38 | 0.053 | -0.712 | 0.347 | -0.421 | 95 |
| 96 | 0.005 | -0.722 | 0.236 | -0.378 | 0.043 | -0.707 | 0.349 | -0.418 | 96 |
| 97 | -0.005 | -0.716 | 0.238 | -0.377 | 0.034 | -0.702 | 0.351 | -0.416 | 97 |
| 98 | -0.015 | -0.71 | 0.24 | -0.376 | 0.024 | -0.697 | 0.352 | -0.412 | 98 |
| 99 | -0.025 | -0.704 | 0.241 | -0.374 | 0.015 | -0.692 | 0.354 | -0.409 | 99 |
| 100 | -0.035 | -0.698 | 0.243 | -0.373 | 0.006 | -0.686 | 0.355 | -0.406 | 100 |
| 101 | -0.044 | -0.691 | 0.245 | -0.371 | -0.003 | -0.68 | 0.356 | -0.403 | 101 |
| 102 | -0.053 | -0.684 | 0.246 | -0.369 | -0.011 | -0.674 | 0.357 | -0.4 | 102 |
| 103 | -0.062 | -0.677 | 0.248 | -0.368 | -0.02 | -0.668 | 0.358 | -0.396 | 103 |
| 104 | -0.071 | -0.67 | 0.249 | -0.365 | -0.028 | -0.662 | 0.359 | -0.393 | 104 |
| 105 | -0.079 | -0.662 | 0.25 | -0.363 | -0.036 | -0.655 | 0.359 | -0.389 | 105 |
| 106 | -0.088 | -0.655 | 0.251 | -0.361 | -0.044 | -0.649 | 0.36 | -0.385 | 106 |
| 107 | -0.095 | -0.647 | 0.252 | -0.359 | -0.052 | -0.642 | 0.36 | -0.381 | 107 |
| 100 | -0.103 | -0.639 | 0.253 | -0.357 | -0.059 | -0.635 | 0.36 | -0.378 | 108 |
| 109 | -0.111 | -0.631 | 0.254 | -0.354 | -0.067 | -0.628 | 0.36 | -0.374 | 109 |
| 110 | -0.118 | -0.623 | 0.255 | -0.352 | -0.074 | -0.621 | 0.36 | -0.37 | 110 |

| $\alpha = 0, \beta = 0.25$ | | | | | $\alpha = 0, \beta = -0.25$ | | | | |
|----------------------------|--------|--------|-------|--------|-----------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.125 | -0.614 | 0.256 | -0.349 | -0.081 | -0.613 | 0.359 | -0.366 | 111 |
| 112 | -0.131 | -0.606 | 0.256 | -0.346 | -0.087 | -0.606 | 0.359 | -0.361 | 112 |
| 113 | -0.138 | -0.598 | 0.257 | -0.343 | -0.094 | -0.598 | 0.358 | -0.357 | 113 |
| 114 | -0.144 | -0.589 | 0.257 | -0.34 | -0.1 | -0.59 | 0.357 | -0.353 | 114 |
| 115 | -0.15 | -0.58 | 0.257 | -0.338 | -0.106 | -0.582 | 0.356 | -0.349 | 115 |
| 116 | -0.155 | -0.571 | 0.257 | -0.334 | -0.112 | -0.574 | 0.355 | -0.344 | 116 |
| 117 | -0.161 | -0.563 | 0.257 | -0.331 | -0.117 | -0.566 | 0.354 | -0.34 | 117 |
| 118 | -0.166 | -0.554 | 0.257 | -0.328 | -0.123 | -0.558 | 0.353 | -0.335 | 118 |
| 119 | -0.171 | -0.544 | 0.257 | -0.325 | -0.128 | -0.55 | 0.351 | -0.331 | 119 |
| 120 | -0.175 | -0.535 | 0.257 | -0.321 | -0.133 | -0.541 | 0.349 | -0.326 | 120 |
| 121 | -0.18 | -0.526 | 0.256 | -0.318 | -0.137 | -0.533 | 0.348 | -0.322 | 121 |
| 122 | -0.184 | -0.517 | 0.256 | -0.314 | -0.142 | -0.524 | 0.346 | -0.317 | 122 |
| 123 | -0.188 | -0.508 | 0.255 | -0.311 | -0.146 | -0.516 | 0.343 | -0.313 | 123 |
| 124 | -0.191 | -0.498 | 0.254 | -0.307 | -0.15 | -0.507 | 0.341 | -0.308 | 124 |
| 125 | -0.195 | -0.489 | 0.254 | -0.303 | -0.154 | -0.498 | 0.339 | -0.303 | 125 |
| 126 | -0.198 | -0.48 | 0.253 | -0.299 | -0.158 | -0.489 | 0.336 | -0.298 | 126 |
| 127 | -0.2 | -0.47 | 0.251 | -0.295 | -0.161 | -0.48 | 0.334 | -0.294 | 127 |
| 128 | -0.203 | -0.461 | 0.25 | -0.291 | -0.164 | -0.471 | 0.331 | -0.289 | 128 |
| 129 | -0.205 | -0.451 | 0.249 | -0.287 | -0.167 | -0.462 | 0.328 | -0.284 | 129 |
| 130 | -0.207 | -0.442 | 0.247 | -0.283 | -0.17 | -0.453 | 0.325 | -0.279 | 130 |
| 131 | -0.209 | -0.433 | 0.246 | -0.279 | -0.172 | -0.444 | 0.321 | -0.274 | 131 |
| 132 | -0.211 | -0.423 | 0.244 | -0.275 | -0.175 | -0.435 | 0.318 | -0.269 | 132 |
| 133 | -0.212 | -0.414 | 0.242 | -0.271 | -0.177 | -0.426 | 0.314 | -0.264 | 133 |
| 134 | -0.213 | -0.405 | 0.24 | -0.266 | -0.179 | -0.417 | 0.311 | -0.259 | 134 |
| 135 | -0.214 | -0.396 | 0.237 | -0.262 | -0.18 | -0.407 | 0.307 | -0.255 | 135 |

| $\alpha = 0.5, \beta = 0.375$ | | | | | $\alpha = -0.5, \beta = -0.375$ | | | | |
|-------------------------------|-------|--------|--------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.751 | 0.23 | -0.014 | -0.026 | 1.087 | -0.55 | 0.062 | -0.085 | 6 |
| 7 | 0.761 | 0.202 | -0.016 | -0.031 | 1.077 | -0.548 | 0.069 | -0.099 | 7 |
| 8 | 0.771 | 0.175 | -0.017 | -0.036 | 1.068 | -0.548 | 0.076 | -0.113 | 8 |
| 9 | 0.779 | 0.15 | -0.018 | -0.041 | 1.058 | -0.549 | 0.082 | -0.127 | 9 |
| 10 | 0.785 | 0.126 | -0.019 | -0.046 | 1.048 | -0.553 | 0.088 | -0.14 | 10 |
| 11 | 0.791 | 0.102 | -0.02 | -0.051 | 1.038 | -0.557 | 0.094 | -0.153 | 11 |
| 12 | 0.795 | 0.079 | -0.021 | -0.056 | 1.027 | -0.562 | 0.1 | -0.166 | 12 |
| 13 | 0.799 | 0.056 | -0.022 | -0.062 | 1.017 | -0.568 | 0.105 | -0.178 | 13 |
| 14 | 0.802 | 0.034 | -0.022 | -0.067 | 1.006 | -0.574 | 0.111 | -0.191 | 14 |
| 15 | 0.804 | 0.012 | -0.023 | -0.072 | 0.995 | -0.581 | 0.116 | -0.203 | 15 |
| 16 | 0.806 | -0.009 | -0.023 | -0.077 | 0.984 | -0.588 | 0.122 | -0.214 | 16 |
| 17 | 0.807 | -0.03 | -0.023 | -0.083 | 0.973 | -0.596 | 0.127 | -0.226 | 17 |
| 18 | 0.807 | -0.051 | -0.023 | -0.088 | 0.962 | -0.604 | 0.133 | -0.237 | 18 |
| 19 | 0.806 | -0.071 | -0.023 | -0.093 | 0.951 | -0.612 | 0.138 | -0.248 | 19 |
| 20 | 0.805 | -0.091 | -0.023 | -0.099 | 0.939 | -0.62 | 0.143 | -0.259 | 20 |
| 21 | 0.804 | -0.111 | -0.023 | -0.104 | 0.928 | -0.628 | 0.149 | -0.27 | 21 |
| 22 | 0.802 | -0.13 | -0.023 | -0.109 | 0.916 | -0.636 | 0.154 | -0.28 | 22 |
| 23 | 0.799 | -0.149 | -0.022 | -0.115 | 0.904 | -0.644 | 0.16 | -0.29 | 23 |
| 24 | 0.796 | -0.168 | -0.022 | -0.12 | 0.893 | -0.653 | 0.165 | -0.3 | 24 |
| 25 | 0.792 | -0.187 | -0.021 | -0.125 | 0.881 | -0.661 | 0.171 | -0.31 | 25 |
| 26 | 0.788 | -0.205 | -0.02 | -0.131 | 0.869 | -0.669 | 0.176 | -0.319 | 26 |
| 27 | 0.784 | -0.223 | -0.02 | -0.136 | 0.857 | -0.677 | 0.181 | -0.328 | 27 |
| 28 | 0.779 | -0.24 | -0.019 | -0.141 | 0.844 | -0.685 | 0.187 | -0.337 | 28 |
| 29 | 0.773 | -0.258 | -0.018 | -0.147 | 0.832 | -0.693 | 0.192 | -0.346 | 29 |
| 30 | 0.767 | -0.275 | -0.017 | -0.152 | 0.82 | -0.701 | 0.198 | -0.354 | 30 |
| 31 | 0.761 | -0.292 | -0.015 | -0.157 | 0.807 | -0.709 | 0.203 | -0.363 | 31 |
| 32 | 0.755 | -0.306 | -0.014 | -0.162 | 0.795 | -0.716 | 0.209 | -0.37 | 32 |
| 33 | 0.748 | -0.324 | -0.013 | -0.167 | 0.782 | -0.724 | 0.214 | -0.378 | 33 |
| 34 | 0.74 | -0.34 | -0.011 | -0.173 | 0.769 | -0.731 | 0.22 | -0.386 | 34 |
| 35 | 0.733 | -0.355 | -0.01 | -0.178 | 0.756 | -0.738 | 0.225 | -0.393 | 35 |
| 36 | 0.725 | -0.371 | -0.008 | -0.183 | 0.744 | -0.745 | 0.231 | -0.4 | 36 |
| 37 | 0.716 | -0.385 | -0.006 | -0.188 | 0.731 | -0.752 | 0.236 | -0.407 | 37 |
| 38 | 0.708 | -0.4 | -0.005 | -0.193 | 0.718 | -0.758 | 0.242 | -0.413 | 38 |
| 39 | 0.699 | -0.414 | -0.003 | -0.198 | 0.705 | -0.764 | 0.247 | -0.419 | 39 |
| 40 | 0.689 | -0.428 | -0.001 | -0.202 | 0.692 | -0.771 | 0.252 | -0.425 | 40 |

| $\alpha = 0.5, \beta = 0.375$ | | | | | $\alpha = -0.5, \beta = -0.375$ | | | | |
|-------------------------------|-------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.68 | -0.442 | 0.001 | -0.207 | 0.678 | -0.776 | 0.258 | -0.431 | 41 |
| 42 | 0.67 | -0.455 | 0.003 | -0.212 | 0.665 | -0.782 | 0.263 | -0.437 | 42 |
| 43 | 0.66 | -0.468 | 0.005 | -0.217 | 0.652 | -0.788 | 0.269 | -0.442 | 43 |
| 44 | 0.649 | -0.48 | 0.007 | -0.221 | 0.639 | -0.793 | 0.274 | -0.447 | 44 |
| 45 | 0.639 | -0.492 | 0.01 | -0.226 | 0.626 | -0.798 | 0.279 | -0.452 | 45 |
| 46 | 0.628 | -0.504 | 0.012 | -0.23 | 0.612 | -0.803 | 0.284 | -0.457 | 46 |
| 47 | 0.617 | -0.516 | 0.015 | -0.235 | 0.599 | -0.807 | 0.29 | -0.461 | 47 |
| 48 | 0.606 | -0.527 | 0.017 | -0.239 | 0.586 | -0.811 | 0.295 | -0.465 | 48 |
| 49 | 0.594 | -0.538 | 0.02 | -0.243 | 0.572 | -0.815 | 0.3 | -0.469 | 49 |
| 50 | 0.582 | -0.548 | 0.022 | -0.248 | 0.559 | -0.819 | 0.305 | -0.473 | 50 |
| 51 | 0.571 | -0.558 | 0.025 | -0.252 | 0.546 | -0.823 | 0.31 | -0.477 | 51 |
| 52 | 0.559 | -0.568 | 0.028 | -0.256 | 0.532 | -0.826 | 0.315 | -0.48 | 52 |
| 53 | 0.547 | -0.577 | 0.03 | -0.26 | 0.519 | -0.829 | 0.32 | -0.483 | 53 |
| 54 | 0.534 | -0.586 | 0.033 | -0.264 | 0.506 | -0.832 | 0.325 | -0.486 | 54 |
| 55 | 0.522 | -0.595 | 0.036 | -0.268 | 0.492 | -0.834 | 0.329 | -0.488 | 55 |
| 56 | 0.509 | -0.603 | 0.039 | -0.271 | 0.479 | -0.837 | 0.334 | -0.491 | 56 |
| 57 | 0.497 | -0.611 | 0.042 | -0.275 | 0.466 | -0.839 | 0.339 | -0.493 | 57 |
| 58 | 0.484 | -0.618 | 0.045 | -0.279 | 0.453 | -0.841 | 0.343 | -0.495 | 58 |
| 59 | 0.471 | -0.625 | 0.048 | -0.282 | 0.439 | -0.842 | 0.348 | -0.497 | 59 |
| 60 | 0.458 | -0.632 | 0.051 | -0.285 | 0.426 | -0.843 | 0.352 | -0.498 | 60 |
| 61 | 0.445 | -0.639 | 0.054 | -0.289 | 0.413 | -0.844 | 0.356 | -0.5 | 61 |
| 62 | 0.432 | -0.645 | 0.057 | -0.292 | 0.4 | -0.845 | 0.36 | -0.501 | 62 |
| 63 | 0.419 | -0.65 | 0.06 | -0.295 | 0.387 | -0.846 | 0.364 | -0.502 | 63 |
| 64 | 0.406 | -0.656 | 0.063 | -0.298 | 0.374 | -0.846 | 0.368 | -0.503 | 64 |
| 65 | 0.393 | -0.661 | 0.067 | -0.301 | 0.362 | -0.846 | 0.372 | -0.503 | 65 |
| 66 | 0.379 | -0.665 | 0.07 | -0.304 | 0.349 | -0.846 | 0.376 | -0.504 | 66 |
| 67 | 0.366 | -0.67 | 0.073 | -0.306 | 0.336 | -0.846 | 0.38 | -0.504 | 67 |
| 68 | 0.353 | -0.674 | 0.076 | -0.309 | 0.323 | -0.845 | 0.383 | -0.504 | 68 |
| 69 | 0.34 | -0.677 | 0.08 | -0.311 | 0.311 | -0.844 | 0.387 | -0.504 | 69 |
| 70 | 0.327 | -0.68 | 0.083 | -0.314 | 0.299 | -0.843 | 0.39 | -0.503 | 70 |
| 71 | 0.313 | -0.683 | 0.086 | -0.316 | 0.286 | -0.842 | 0.393 | -0.503 | 71 |
| 72 | 0.3 | -0.686 | 0.089 | -0.318 | 0.274 | -0.84 | 0.397 | -0.502 | 72 |
| 73 | 0.287 | -0.688 | 0.093 | -0.32 | 0.262 | -0.838 | 0.4 | -0.501 | 73 |
| 74 | 0.274 | -0.69 | 0.096 | -0.322 | 0.25 | -0.836 | 0.403 | -0.5 | 74 |
| 75 | 0.261 | -0.691 | 0.099 | -0.324 | 0.238 | -0.834 | 0.405 | -0.499 | 75 |

| $\alpha = 0.5, \beta = 0.375$ | | | | | $\alpha = -0.5, \beta = -0.375$ | | | | |
|-------------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.248 | -0.693 | 0.103 | -0.326 | 0.226 | -0.831 | 0.408 | -0.497 | 76 |
| 77 | 0.235 | -0.693 | 0.106 | -0.328 | 0.214 | -0.828 | 0.411 | -0.496 | 77 |
| 78 | 0.222 | -0.694 | 0.109 | -0.329 | 0.203 | -0.825 | 0.413 | -0.494 | 78 |
| 79 | 0.21 | -0.694 | 0.112 | -0.331 | 0.191 | -0.822 | 0.415 | -0.492 | 79 |
| 80 | 0.197 | -0.694 | 0.116 | -0.332 | 0.18 | -0.819 | 0.417 | -0.49 | 80 |
| 81 | 0.184 | -0.694 | 0.119 | -0.333 | 0.169 | -0.815 | 0.419 | -0.488 | 81 |
| 82 | 0.172 | -0.693 | 0.122 | -0.334 | 0.158 | -0.811 | 0.421 | -0.486 | 82 |
| 83 | 0.16 | -0.692 | 0.125 | -0.335 | 0.147 | -0.807 | 0.423 | -0.484 | 83 |
| 84 | 0.148 | -0.691 | 0.128 | -0.336 | 0.136 | -0.803 | 0.425 | -0.481 | 84 |
| 85 | 0.135 | -0.689 | 0.131 | -0.337 | 0.126 | -0.799 | 0.426 | -0.478 | 85 |
| 86 | 0.124 | -0.687 | 0.135 | -0.337 | 0.115 | -0.794 | 0.427 | -0.476 | 86 |
| 87 | 0.112 | -0.685 | 0.138 | -0.338 | 0.105 | -0.789 | 0.429 | -0.473 | 87 |
| 88 | 0.1 | -0.682 | 0.141 | -0.338 | 0.095 | -0.784 | 0.43 | -0.47 | 88 |
| 89 | 0.089 | -0.68 | 0.144 | -0.339 | 0.085 | -0.779 | 0.431 | -0.466 | 89 |
| 90 | 0.077 | -0.677 | 0.147 | -0.339 | 0.075 | -0.774 | 0.431 | -0.463 | 90 |
| 91 | 0.066 | -0.673 | 0.149 | -0.339 | 0.065 | -0.768 | 0.432 | -0.46 | 91 |
| 92 | 0.055 | -0.67 | 0.152 | -0.339 | 0.056 | -0.762 | 0.433 | -0.456 | 92 |
| 93 | 0.044 | -0.666 | 0.155 | -0.339 | 0.046 | -0.756 | 0.433 | -0.453 | 93 |
| 94 | 0.034 | -0.662 | 0.158 | -0.339 | 0.037 | -0.75 | 0.433 | -0.449 | 94 |
| 95 | 0.024 | -0.658 | 0.161 | -0.338 | 0.028 | -0.744 | 0.433 | -0.445 | 95 |
| 96 | 0.013 | -0.653 | 0.163 | -0.338 | 0.019 | -0.738 | 0.433 | -0.441 | 96 |
| 97 | 0.003 | -0.649 | 0.166 | -0.337 | 0.01 | -0.731 | 0.433 | -0.437 | 97 |
| 98 | -0.007 | -0.644 | 0.168 | -0.337 | 0.002 | -0.724 | 0.433 | -0.433 | 98 |
| 99 | -0.016 | -0.639 | 0.171 | -0.336 | -0.006 | -0.718 | 0.432 | -0.429 | 99 |
| 100 | -0.026 | -0.633 | 0.173 | -0.335 | -0.014 | -0.711 | 0.432 | -0.425 | 100 |
| 101 | -0.035 | -0.628 | 0.176 | -0.334 | -0.022 | -0.703 | 0.431 | -0.421 | 101 |
| 102 | -0.044 | -0.622 | 0.178 | -0.333 | -0.03 | -0.696 | 0.43 | -0.416 | 102 |
| 103 | -0.053 | -0.616 | 0.18 | -0.332 | -0.038 | -0.689 | 0.429 | -0.412 | 103 |
| 104 | -0.061 | -0.61 | 0.182 | -0.33 | -0.045 | -0.681 | 0.428 | -0.407 | 104 |
| 105 | -0.069 | -0.604 | 0.184 | -0.329 | -0.052 | -0.674 | 0.427 | -0.403 | 105 |
| 106 | -0.077 | -0.597 | 0.186 | -0.328 | -0.059 | -0.666 | 0.425 | -0.398 | 106 |
| 107 | -0.085 | -0.591 | 0.188 | -0.326 | -0.066 | -0.658 | 0.424 | -0.393 | 107 |
| 108 | -0.093 | -0.584 | 0.19 | -0.324 | -0.073 | -0.65 | 0.422 | -0.389 | 108 |
| 109 | -0.1 | -0.577 | 0.192 | -0.323 | -0.079 | -0.642 | 0.42 | -0.384 | 109 |
| 110 | -0.107 | -0.57 | 0.193 | -0.321 | -0.085 | -0.633 | 0.418 | -0.379 | 110 |

| $\alpha = 0.5, \beta = 0.375$ | | | | | $\alpha = -0.5, \beta = -0.375$ | | | | |
|-------------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.114 | -0.563 | 0.195 | -0.319 | -0.091 | -0.625 | 0.416 | -0.374 | 111 |
| 112 | -0.121 | -0.555 | 0.196 | -0.317 | -0.097 | -0.617 | 0.414 | -0.369 | 112 |
| 113 | -0.127 | -0.548 | 0.198 | -0.315 | -0.103 | -0.608 | 0.411 | -0.364 | 113 |
| 114 | -0.133 | -0.54 | 0.199 | -0.312 | -0.108 | -0.6 | 0.409 | -0.359 | 114 |
| 115 | -0.139 | -0.533 | 0.2 | -0.31 | -0.113 | -0.591 | 0.406 | -0.354 | 115 |
| 116 | -0.145 | -0.525 | 0.201 | -0.308 | -0.118 | -0.582 | 0.403 | -0.349 | 116 |
| 117 | -0.15 | -0.517 | 0.202 | -0.305 | -0.123 | -0.573 | 0.4 | -0.344 | 117 |
| 118 | -0.155 | -0.509 | 0.203 | -0.303 | -0.128 | -0.564 | 0.397 | -0.339 | 118 |
| 119 | -0.16 | -0.501 | 0.204 | -0.3 | -0.132 | -0.555 | 0.394 | -0.334 | 119 |
| 120 | -0.165 | -0.493 | 0.205 | -0.297 | -0.136 | -0.546 | 0.391 | -0.329 | 120 |
| 121 | -0.169 | -0.485 | 0.205 | -0.295 | -0.14 | -0.537 | 0.388 | -0.323 | 121 |
| 122 | -0.173 | -0.476 | 0.206 | -0.292 | -0.144 | -0.528 | 0.384 | -0.318 | 122 |
| 123 | -0.177 | -0.468 | 0.206 | -0.289 | -0.148 | -0.519 | 0.38 | -0.313 | 123 |
| 124 | -0.181 | -0.46 | 0.206 | -0.286 | -0.151 | -0.51 | 0.377 | -0.308 | 124 |
| 125 | -0.184 | -0.451 | 0.206 | -0.282 | -0.154 | -0.5 | 0.373 | -0.302 | 125 |
| 126 | -0.187 | -0.443 | 0.206 | -0.279 | -0.157 | -0.491 | 0.369 | -0.297 | 126 |
| 127 | -0.19 | -0.434 | 0.206 | -0.276 | -0.16 | -0.482 | 0.365 | -0.292 | 127 |
| 128 | -0.193 | -0.426 | 0.206 | -0.273 | -0.163 | -0.472 | 0.361 | -0.287 | 128 |
| 129 | -0.195 | -0.417 | 0.206 | -0.269 | -0.165 | -0.463 | 0.356 | -0.281 | 129 |
| 130 | -0.197 | -0.409 | 0.205 | -0.266 | -0.167 | -0.453 | 0.352 | -0.276 | 130 |
| 131 | -0.199 | -0.4 | 0.204 | -0.262 | -0.169 | -0.444 | 0.348 | -0.271 | 131 |
| 132 | -0.201 | -0.392 | 0.204 | -0.259 | -0.171 | -0.434 | 0.343 | -0.266 | 132 |
| 133 | -0.202 | -0.383 | 0.203 | -0.255 | -0.173 | -0.425 | 0.338 | -0.26 | 133 |
| 134 | -0.204 | -0.375 | 0.202 | -0.252 | -0.174 | -0.415 | 0.334 | -0.255 | 134 |
| 135 | -0.205 | -0.367 | 0.2 | -0.248 | -0.176 | -0.405 | 0.329 | -0.25 | 135 |

| $\alpha = 0.5, \beta = 0.25$ | | | | | $\alpha = -0.5, \beta = -0.25$ | | | | |
|------------------------------|-------|--------|--------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.806 | 0.141 | -0.016 | -0.032 | 1.183 | -0.47 | 0.072 | -0.077 | 6 |
| 7 | 0.813 | 0.117 | -0.018 | -0.038 | 1.17 | -0.476 | 0.08 | -0.09 | 7 |
| 8 | 0.819 | 0.094 | -0.019 | -0.044 | 1.158 | -0.484 | 0.087 | -0.102 | 8 |
| 9 | 0.823 | 0.071 | -0.021 | -0.05 | 1.146 | -0.492 | 0.094 | -0.115 | 9 |
| 10 | 0.827 | 0.049 | -0.022 | -0.055 | 1.134 | -0.501 | 0.1 | -0.127 | 10 |
| 11 | 0.83 | 0.028 | -0.023 | -0.061 | 1.122 | -0.511 | 0.106 | -0.139 | 11 |
| 12 | 0.833 | 0.007 | -0.023 | -0.067 | 1.11 | -0.521 | 0.112 | -0.151 | 12 |
| 13 | 0.834 | -0.013 | -0.024 | -0.073 | 1.097 | -0.531 | 0.117 | -0.163 | 13 |
| 14 | 0.835 | -0.034 | -0.024 | -0.08 | 1.085 | -0.542 | 0.123 | -0.175 | 14 |
| 15 | 0.836 | -0.053 | -0.024 | -0.086 | 1.073 | -0.553 | 0.128 | -0.186 | 15 |
| 16 | 0.836 | -0.073 | -0.025 | -0.092 | 1.061 | -0.564 | 0.134 | -0.197 | 16 |
| 17 | 0.835 | -0.092 | -0.025 | -0.098 | 1.049 | -0.575 | 0.139 | -0.208 | 17 |
| 18 | 0.834 | -0.111 | -0.024 | -0.104 | 1.036 | -0.586 | 0.144 | -0.219 | 18 |
| 19 | 0.832 | -0.13 | -0.024 | -0.11 | 1.024 | -0.597 | 0.149 | -0.229 | 19 |
| 20 | 0.83 | -0.149 | -0.024 | -0.116 | 1.011 | -0.608 | 0.154 | -0.24 | 20 |
| 21 | 0.828 | -0.167 | -0.023 | -0.122 | 0.998 | -0.619 | 0.159 | -0.25 | 21 |
| 22 | 0.825 | -0.185 | -0.023 | -0.128 | 0.986 | -0.63 | 0.164 | -0.26 | 22 |
| 23 | 0.821 | -0.203 | -0.022 | -0.134 | 0.973 | -0.641 | 0.169 | -0.27 | 23 |
| 24 | 0.817 | -0.22 | -0.021 | -0.14 | 0.96 | -0.652 | 0.174 | -0.279 | 24 |
| 25 | 0.813 | -0.237 | -0.02 | -0.146 | 0.947 | -0.662 | 0.179 | -0.289 | 25 |
| 26 | 0.808 | -0.255 | -0.019 | -0.152 | 0.933 | -0.673 | 0.184 | -0.298 | 26 |
| 27 | 0.803 | -0.271 | -0.018 | -0.158 | 0.92 | -0.683 | 0.189 | -0.307 | 27 |
| 28 | 0.797 | -0.288 | -0.016 | -0.164 | 0.907 | -0.693 | 0.194 | -0.315 | 28 |
| 29 | 0.791 | -0.304 | -0.015 | -0.17 | 0.893 | -0.703 | 0.199 | -0.324 | 29 |
| 30 | 0.785 | -0.32 | -0.013 | -0.176 | 0.88 | -0.713 | 0.204 | -0.332 | 30 |
| 31 | 0.778 | -0.336 | -0.012 | -0.181 | 0.866 | -0.723 | 0.209 | -0.34 | 31 |
| 32 | 0.771 | -0.351 | -0.01 | -0.187 | 0.852 | -0.732 | 0.214 | -0.348 | 32 |
| 33 | 0.764 | -0.367 | -0.008 | -0.193 | 0.838 | -0.741 | 0.219 | -0.356 | 33 |
| 34 | 0.756 | -0.382 | -0.006 | -0.199 | 0.824 | -0.75 | 0.223 | -0.363 | 34 |
| 35 | 0.748 | -0.396 | -0.004 | -0.204 | 0.81 | -0.759 | 0.228 | -0.371 | 35 |
| 36 | 0.74 | -0.411 | -0.002 | -0.21 | 0.796 | -0.767 | 0.233 | -0.378 | 36 |
| 37 | 0.731 | -0.425 | 0 | -0.215 | 0.782 | -0.775 | 0.238 | -0.385 | 37 |
| 38 | 0.722 | -0.438 | 0.003 | -0.221 | 0.768 | -0.783 | 0.243 | -0.391 | 38 |
| 39 | 0.713 | -0.452 | 0.005 | -0.226 | 0.754 | -0.791 | 0.248 | -0.398 | 39 |
| 40 | 0.703 | -0.465 | 0.008 | -0.231 | 0.739 | -0.798 | 0.252 | -0.404 | 40 |

| $\alpha = 0.5, \beta = 0.25$ | | | | | $\alpha = -0.5, \beta = -0.25$ | | | | |
|------------------------------|-------|--------|-------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.693 | -0.478 | 0.01 | -0.236 | 0.725 | -0.805 | 0.257 | -0.41 | 41 |
| 42 | 0.683 | -0.491 | 0.013 | -0.241 | 0.71 | -0.812 | 0.262 | -0.416 | 42 |
| 43 | 0.673 | -0.503 | 0.016 | -0.246 | 0.696 | -0.818 | 0.267 | -0.421 | 43 |
| 44 | 0.663 | -0.515 | 0.018 | -0.251 | 0.681 | -0.825 | 0.271 | -0.427 | 44 |
| 45 | 0.652 | -0.526 | 0.021 | -0.256 | 0.667 | -0.831 | 0.276 | -0.432 | 45 |
| 46 | 0.641 | -0.538 | 0.024 | -0.261 | 0.652 | -0.836 | 0.28 | -0.437 | 46 |
| 47 | 0.63 | -0.549 | 0.027 | -0.266 | 0.638 | -0.842 | 0.285 | -0.442 | 47 |
| 48 | 0.618 | -0.559 | 0.03 | -0.27 | 0.623 | -0.847 | 0.29 | -0.446 | 48 |
| 49 | 0.607 | -0.57 | 0.033 | -0.275 | 0.608 | -0.851 | 0.294 | -0.451 | 49 |
| 50 | 0.595 | -0.58 | 0.037 | -0.279 | 0.594 | -0.856 | 0.299 | -0.455 | 50 |
| 51 | 0.583 | -0.589 | 0.04 | -0.284 | 0.579 | -0.86 | 0.303 | -0.458 | 51 |
| 52 | 0.571 | -0.599 | 0.043 | -0.288 | 0.565 | -0.864 | 0.307 | -0.462 | 52 |
| 53 | 0.559 | -0.608 | 0.047 | -0.292 | 0.55 | -0.868 | 0.312 | -0.466 | 53 |
| 54 | 0.547 | -0.616 | 0.05 | -0.296 | 0.536 | -0.871 | 0.316 | -0.469 | 54 |
| 55 | 0.534 | -0.624 | 0.053 | -0.3 | 0.521 | -0.874 | 0.32 | -0.472 | 55 |
| 56 | 0.522 | -0.632 | 0.057 | -0.304 | 0.507 | -0.877 | 0.324 | -0.475 | 56 |
| 57 | 0.509 | -0.64 | 0.06 | -0.308 | 0.492 | -0.879 | 0.328 | -0.477 | 57 |
| 58 | 0.496 | -0.647 | 0.064 | -0.311 | 0.478 | -0.881 | 0.332 | -0.48 | 58 |
| 59 | 0.483 | -0.654 | 0.068 | -0.315 | 0.463 | -0.883 | 0.336 | -0.482 | 59 |
| 60 | 0.47 | -0.661 | 0.071 | -0.318 | 0.449 | -0.885 | 0.34 | -0.484 | 60 |
| 61 | 0.457 | -0.667 | 0.075 | -0.322 | 0.435 | -0.886 | 0.344 | -0.486 | 61 |
| 62 | 0.444 | -0.673 | 0.079 | -0.325 | 0.421 | -0.887 | 0.347 | -0.488 | 62 |
| 63 | 0.431 | -0.678 | 0.082 | -0.328 | 0.406 | -0.888 | 0.351 | -0.489 | 63 |
| 64 | 0.418 | -0.683 | 0.086 | -0.331 | 0.392 | -0.888 | 0.355 | -0.491 | 64 |
| 65 | 0.405 | -0.688 | 0.09 | -0.334 | 0.378 | -0.888 | 0.358 | -0.492 | 65 |
| 66 | 0.392 | -0.693 | 0.093 | -0.336 | 0.365 | -0.888 | 0.362 | -0.493 | 66 |
| 67 | 0.378 | -0.697 | 0.097 | -0.339 | 0.351 | -0.888 | 0.365 | -0.493 | 67 |
| 68 | 0.365 | -0.701 | 0.101 | -0.342 | 0.337 | -0.887 | 0.368 | -0.494 | 68 |
| 69 | 0.352 | -0.704 | 0.105 | -0.344 | 0.324 | -0.886 | 0.371 | -0.494 | 69 |
| 70 | 0.338 | -0.707 | 0.109 | -0.346 | 0.31 | -0.885 | 0.374 | -0.494 | 70 |
| 71 | 0.325 | -0.71 | 0.112 | -0.348 | 0.297 | -0.884 | 0.377 | -0.495 | 71 |
| 72 | 0.312 | -0.712 | 0.116 | -0.35 | 0.283 | -0.882 | 0.38 | -0.494 | 72 |
| 73 | 0.299 | -0.715 | 0.12 | -0.352 | 0.27 | -0.88 | 0.383 | -0.494 | 73 |
| 74 | 0.286 | -0.716 | 0.124 | -0.354 | 0.257 | -0.878 | 0.385 | -0.493 | 74 |
| 75 | 0.273 | -0.718 | 0.127 | -0.356 | 0.244 | -0.875 | 0.388 | -0.493 | 75 |

| $\alpha = 0.5, \beta = 0.25$ | | | | | $\alpha = -0.5, \beta = -0.25$ | | | | |
|------------------------------|--------|--------|-------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.26 | -0.719 | 0.131 | -0.357 | 0.232 | -0.873 | 0.39 | -0.492 | 76 |
| 77 | 0.247 | -0.72 | 0.135 | -0.359 | 0.219 | -0.87 | 0.393 | -0.491 | 77 |
| 78 | 0.234 | -0.72 | 0.138 | -0.36 | 0.207 | -0.866 | 0.395 | -0.49 | 78 |
| 79 | 0.221 | -0.72 | 0.142 | -0.361 | 0.194 | -0.863 | 0.397 | -0.489 | 79 |
| 80 | 0.208 | -0.72 | 0.146 | -0.362 | 0.182 | -0.859 | 0.399 | -0.487 | 80 |
| 81 | 0.195 | -0.72 | 0.149 | -0.363 | 0.17 | -0.855 | 0.401 | -0.486 | 81 |
| 82 | 0.183 | -0.719 | 0.153 | -0.364 | 0.158 | -0.851 | 0.403 | -0.484 | 82 |
| 83 | 0.17 | -0.718 | 0.156 | -0.365 | 0.146 | -0.847 | 0.404 | -0.482 | 83 |
| 84 | 0.158 | -0.717 | 0.16 | -0.365 | 0.135 | -0.842 | 0.406 | -0.48 | 84 |
| 85 | 0.146 | -0.715 | 0.163 | -0.366 | 0.123 | -0.837 | 0.407 | -0.478 | 85 |
| 83 | 0.134 | -0.713 | 0.167 | -0.366 | 0.112 | -0.832 | 0.409 | -0.476 | 86 |
| 87 | 0.122 | -0.711 | 0.17 | -0.366 | 0.101 | -0.827 | 0.41 | -0.473 | 87 |
| 88 | 0.11 | -0.708 | 0.173 | -0.366 | 0.09 | -0.822 | 0.411 | -0.471 | 88 |
| 89 | 0.099 | -0.706 | 0.176 | -0.366 | 0.08 | -0.816 | 0.412 | -0.468 | 89 |
| 90 | 0.087 | -0.703 | 0.18 | -0.366 | 0.069 | -0.81 | 0.413 | -0.465 | 90 |
| 91 | 0.076 | -0.699 | 0.183 | -0.366 | 0.059 | -0.804 | 0.413 | -0.462 | 91 |
| 92 | 0.065 | -0.696 | 0.186 | -0.366 | 0.049 | -0.798 | 0.414 | -0.459 | 92 |
| 93 | 0.054 | -0.692 | 0.189 | -0.365 | 0.039 | -0.792 | 0.414 | -0.456 | 93 |
| 94 | 0.043 | -0.688 | 0.192 | -0.364 | 0.029 | -0.785 | 0.415 | -0.453 | 94 |
| 95 | 0.032 | -0.684 | 0.195 | -0.364 | 0.019 | -0.778 | 0.415 | -0.449 | 95 |
| 96 | 0.022 | -0.679 | 0.197 | -0.363 | 0.01 | -0.771 | 0.415 | -0.446 | 96 |
| 97 | 0.012 | -0.674 | 0.2 | -0.362 | 0.001 | -0.764 | 0.415 | -0.442 | 97 |
| 98 | 0.002 | -0.669 | 0.203 | -0.361 | -0.008 | -0.757 | 0.415 | -0.439 | 98 |
| 99 | -0.008 | -0.664 | 0.205 | -0.36 | -0.017 | -0.75 | 0.414 | -0.435 | 99 |
| 100 | -0.018 | -0.659 | 0.208 | -0.358 | -0.026 | -0.742 | 0.414 | -0.431 | 100 |
| 101 | -0.027 | -0.653 | 0.21 | -0.357 | -0.034 | -0.734 | 0.413 | -0.427 | 101 |
| 102 | -0.036 | -0.647 | 0.212 | -0.355 | -0.042 | -0.727 | 0.413 | -0.423 | 102 |
| 103 | -0.045 | -0.641 | 0.215 | -0.354 | -0.05 | -0.719 | 0.412 | -0.419 | 103 |
| 104 | -0.054 | -0.635 | 0.217 | -0.352 | -0.058 | -0.711 | 0.411 | -0.415 | 104 |
| 101 | -0.063 | -0.629 | 0.219 | -0.35 | -0.066 | -0.702 | 0.41 | -0.411 | 105 |
| 106 | -0.071 | -0.622 | 0.22 | -0.348 | -0.073 | -0.694 | 0.409 | -0.407 | 106 |
| 107 | -0.079 | -0.616 | 0.222 | -0.347 | -0.08 | -0.685 | 0.407 | -0.402 | 107 |
| 108 | -0.087 | -0.609 | 0.224 | -0.344 | -0.087 | -0.677 | 0.406 | -0.398 | 108 |
| 109 | -0.094 | -0.602 | 0.226 | -0.342 | -0.094 | -0.668 | 0.404 | -0.393 | 109 |
| 110 | -0.102 | -0.594 | 0.227 | -0.34 | -0.1 | -0.659 | 0.403 | -0.389 | 110 |

| $\alpha = 0.5, \beta = 0.25$ | | | | | $\alpha = -0.5, \beta = -0.25$ | | | | |
|------------------------------|--------|--------|-------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.109 | -0.587 | 0.229 | -0.338 | -0.106 | -0.651 | 0.401 | -0.384 | 111 |
| 112 | -0.116 | -0.58 | 0.23 | -0.335 | -0.112 | -0.642 | 0.399 | -0.379 | 112 |
| 113 | -0.122 | -0.572 | 0.231 | -0.333 | -0.118 | -0.632 | 0.397 | -0.375 | 113 |
| 114 | -0.129 | -0.564 | 0.232 | -0.33 | -0.124 | -0.623 | 0.395 | -0.37 | 114 |
| 115 | -0.135 | -0.557 | 0.233 | -0.327 | -0.129 | -0.614 | 0.392 | -0.365 | 115 |
| 116 | -0.141 | -0.549 | 0.234 | -0.324 | -0.135 | -0.605 | 0.39 | -0.36 | 116 |
| 117 | -0.146 | -0.541 | 0.235 | -0.322 | -0.139 | -0.595 | 0.388 | -0.355 | 117 |
| 118 | -0.152 | -0.532 | 0.235 | -0.319 | -0.144 | -0.586 | 0.385 | -0.35 | 118 |
| 119 | -0.157 | -0.524 | 0.236 | -0.315 | -0.149 | -0.576 | 0.382 | -0.345 | 119 |
| 120 | -0.162 | -0.516 | 0.236 | -0.312 | -0.153 | -0.567 | 0.379 | -0.34 | 120 |
| 121 | -0.166 | -0.507 | 0.237 | -0.309 | -0.157 | -0.557 | 0.376 | -0.335 | 121 |
| 122 | -0.171 | -0.499 | 0.237 | -0.306 | -0.161 | -0.547 | 0.373 | -0.33 | 122 |
| 123 | -0.175 | -0.49 | 0.237 | -0.302 | -0.165 | -0.538 | 0.37 | -0.325 | 123 |
| 124 | -0.179 | -0.482 | 0.237 | -0.299 | -0.168 | -0.528 | 0.366 | -0.32 | 124 |
| 125 | -0.182 | -0.473 | 0.236 | -0.296 | -0.171 | -0.518 | 0.363 | -0.315 | 125 |
| 126 | -0.186 | -0.464 | 0.236 | -0.292 | -0.174 | -0.508 | 0.359 | -0.309 | 126 |
| 127 | -0.189 | -0.456 | 0.236 | -0.288 | -0.177 | -0.498 | 0.356 | -0.304 | 127 |
| 128 | -0.192 | -0.447 | 0.235 | -0.285 | -0.18 | -0.489 | 0.352 | -0.299 | 128 |
| 129 | -0.194 | -0.438 | 0.234 | -0.281 | -0.182 | -0.479 | 0.348 | -0.294 | 129 |
| 130 | -0.197 | -0.429 | 0.233 | -0.277 | -0.184 | -0.469 | 0.344 | -0.288 | 130 |
| 131 | -0.199 | -0.421 | 0.232 | -0.273 | -0.186 | -0.459 | 0.34 | -0.283 | 131 |
| 132 | -0.201 | -0.412 | 0.231 | -0.269 | -0.188 | -0.449 | 0.336 | -0.278 | 132 |
| 133 | -0.203 | -0.403 | 0.23 | -0.265 | -0.189 | -0.439 | 0.331 | -0.272 | 133 |
| 134 | -0.204 | -0.395 | 0.228 | -0.261 | -0.191 | -0.429 | 0.327 | -0.267 | 134 |
| 135 | -0.205 | -0.386 | 0.226 | -0.257 | -0.192 | -0.419 | 0.322 | -0.262 | 135 |

| $\alpha = 0.5, \beta = -0.125$ | | | | | $\alpha = -0.5, \beta = 0.125$ | | | | |
|--------------------------------|-------|--------|--------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.827 | -0.117 | -0.024 | -0.047 | 1.303 | -0.132 | 0.085 | -0.048 | 6 |
| 7 | 0.828 | -0.125 | -0.027 | -0.055 | 1.291 | -0.163 | 0.093 | -0.057 | 7 |
| 8 | 0.829 | -0.134 | -0.028 | -0.063 | 1.279 | -0.196 | 0.1 | -0.066 | 8 |
| 9 | 0.829 | -0.145 | -0.03 | -0.071 | 1.267 | -0.224 | 0.106 | -0.075 | 9 |
| 10 | 0.829 | -0.155 | -0.031 | -0.079 | 1.255 | -0.251 | 0.112 | -0.084 | 10 |
| 11 | 0.828 | -0.166 | -0.032 | -0.087 | 1.243 | -0.277 | 0.118 | -0.093 | 11 |
| 12 | 0.828 | -0.178 | -0.032 | -0.095 | 1.231 | -0.301 | 0.123 | -0.101 | 12 |
| 13 | 0.826 | -0.189 | -0.032 | -0.103 | 1.219 | -0.325 | 0.128 | -0.11 | 13 |
| 14 | 0.825 | -0.201 | -0.032 | -0.111 | 1.207 | -0.348 | 0.132 | -0.119 | 14 |
| 15 | 0.823 | -0.213 | -0.032 | -0.119 | 1.195 | -0.371 | 0.137 | -0.127 | 15 |
| 16 | 0.821 | -0.225 | -0.032 | -0.127 | 1.182 | -0.393 | 0.141 | -0.136 | 16 |
| 17 | 0.818 | -0.238 | -0.031 | -0.135 | 1.17 | -0.414 | 0.145 | -0.144 | 17 |
| 18 | 0.815 | -0.25 | -0.03 | -0.143 | 1.157 | -0.435 | 0.149 | -0.153 | 18 |
| 19 | 0.812 | -0.262 | -0.029 | -0.151 | 1.144 | -0.455 | 0.153 | -0.161 | 19 |
| 20 | 0.809 | -0.275 | -0.028 | -0.159 | 1.13 | -0.475 | 0.157 | -0.169 | 20 |
| 21 | 0.805 | -0.287 | -0.027 | -0.167 | 1.117 | -0.495 | 0.16 | -0.177 | 21 |
| 22 | 0.801 | -0.299 | -0.025 | -0.175 | 1.103 | -0.513 | 0.164 | -0.185 | 22 |
| 23 | 0.796 | -0.312 | -0.023 | -0.182 | 1.09 | -0.532 | 0.167 | -0.193 | 23 |
| 24 | 0.792 | -0.324 | -0.021 | -0.19 | 1.076 | -0.55 | 0.171 | -0.201 | 24 |
| 25 | 0.787 | -0.336 | -0.019 | -0.197 | 1.061 | -0.567 | 0.174 | -0.209 | 25 |
| 26 | 0.782 | -0.349 | -0.017 | -0.205 | 1.047 | -0.584 | 0.177 | -0.217 | 26 |
| 27 | 0.776 | -0.361 | -0.015 | -0.212 | 1.032 | -0.601 | 0.18 | -0.224 | 27 |
| 28 | 0.77 | -0.373 | -0.012 | -0.219 | 1.018 | -0.617 | 0.184 | -0.232 | 28 |
| 29 | 0.764 | -0.385 | -0.009 | -0.226 | 1.003 | -0.633 | 0.187 | -0.239 | 29 |
| 30 | 0.758 | -0.396 | -0.006 | -0.233 | 0.988 | -0.649 | 0.19 | -0.247 | 30 |
| 31 | 0.751 | -0.408 | -0.003 | -0.24 | 0.972 | -0.663 | 0.193 | -0.254 | 31 |
| 32 | 0.744 | -0.42 | 0 | -0.247 | 0.957 | -0.678 | 0.196 | -0.261 | 32 |
| 33 | 0.737 | -0.431 | 0.003 | -0.254 | 0.941 | -0.692 | 0.199 | -0.268 | 33 |
| 34 | 0.73 | -0.443 | 0.007 | -0.261 | 0.923 | -0.706 | 0.202 | -0.275 | 34 |
| 35 | 0.722 | -0.454 | 0.01 | -0.267 | 0.909 | -0.719 | 0.205 | -0.282 | 35 |
| 36 | 0.714 | -0.465 | 0.014 | -0.274 | 0.893 | -0.732 | 0.208 | -0.288 | 36 |
| 37 | 0.706 | -0.476 | 0.018 | -0.28 | 0.877 | -0.744 | 0.211 | -0.295 | 37 |
| 38 | 0.698 | -0.486 | 0.022 | -0.286 | 0.861 | -0.756 | 0.214 | -0.301 | 38 |
| 39 | 0.69 | -0.497 | 0.026 | -0.292 | 0.845 | -0.767 | 0.216 | -0.307 | 39 |
| 40 | 0.681 | -0.507 | 0.03 | -0.298 | 0.828 | -0.778 | 0.219 | -0.313 | 40 |

| $\alpha = 0.5, \beta = -0.125$ | | | | | $\alpha = -0.5, \beta = 0.125$ | | | | |
|--------------------------------|-------|--------|-------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.672 | -0.517 | 0.034 | -0.304 | 0.812 | -0.789 | 0.222 | -0.319 | 41 |
| 42 | 0.663 | -0.527 | 0.038 | -0.31 | 0.795 | -0.799 | 0.225 | -0.325 | 42 |
| 43 | 0.653 | -0.537 | 0.042 | -0.315 | 0.778 | -0.809 | 0.228 | -0.331 | 43 |
| 44 | 0.644 | -0.546 | 0.047 | -0.321 | 0.761 | -0.818 | 0.231 | -0.336 | 44 |
| 45 | 0.634 | -0.555 | 0.051 | -0.326 | 0.744 | -0.827 | 0.233 | -0.342 | 45 |
| 46 | 0.624 | -0.564 | 0.056 | -0.331 | 0.728 | -0.836 | 0.236 | -0.347 | 46 |
| 47 | 0.614 | -0.573 | 0.061 | -0.336 | 0.711 | -0.844 | 0.239 | -0.352 | 47 |
| 48 | 0.604 | -0.582 | 0.065 | -0.341 | 0.694 | -0.852 | 0.242 | -0.357 | 48 |
| 49 | 0.593 | -0.59 | 0.07 | -0.346 | 0.677 | -0.859 | 0.244 | -0.362 | 49 |
| 50 | 0.583 | -0.598 | 0.075 | -0.35 | 0.66 | -0.866 | 0.247 | -0.367 | 50 |
| 51 | 0.572 | -0.606 | 0.08 | -0.355 | 0.643 | -0.872 | 0.25 | -0.371 | 51 |
| 52 | 0.561 | -0.614 | 0.085 | -0.359 | 0.625 | -0.878 | 0.252 | -0.375 | 52 |
| 53 | 0.55 | -0.621 | 0.09 | -0.363 | 0.608 | -0.884 | 0.255 | -0.38 | 53 |
| 54 | 0.539 | -0.628 | 0.095 | -0.367 | 0.591 | -0.889 | 0.258 | -0.384 | 54 |
| 55 | 0.528 | -0.635 | 0.1 | -0.371 | 0.574 | -0.894 | 0.26 | -0.388 | 55 |
| 56 | 0.517 | -0.642 | 0.105 | -0.374 | 0.558 | -0.898 | 0.263 | -0.391 | 56 |
| 57 | 0.505 | -0.648 | 0.11 | -0.378 | 0.541 | -0.902 | 0.265 | -0.395 | 57 |
| 58 | 0.494 | -0.654 | 0.115 | -0.381 | 0.524 | -0.906 | 0.268 | -0.399 | 58 |
| 59 | 0.482 | -0.66 | 0.121 | -0.384 | 0.507 | -0.909 | 0.27 | -0.402 | 59 |
| 60 | 0.47 | -0.665 | 0.126 | -0.388 | 0.49 | -0.912 | 0.273 | -0.405 | 60 |
| 61 | 0.459 | -0.671 | 0.131 | -0.39 | 0.474 | -0.914 | 0.275 | -0.408 | 61 |
| 62 | 0.447 | -0.676 | 0.136 | -0.393 | 0.457 | -0.916 | 0.277 | -0.411 | 62 |
| 63 | 0.435 | -0.68 | 0.141 | -0.396 | 0.44 | -0.918 | 0.28 | -0.413 | 63 |
| 64 | 0.423 | -0.685 | 0.146 | -0.398 | 0.424 | -0.919 | 0.282 | -0.416 | 64 |
| 65 | 0.411 | -0.689 | 0.152 | -0.4 | 0.408 | -0.92 | 0.284 | -0.418 | 65 |
| 66 | 0.399 | -0.693 | 0.157 | -0.403 | 0.392 | -0.921 | 0.286 | -0.421 | 66 |
| 67 | 0.387 | -0.697 | 0.162 | -0.405 | 0.376 | -0.921 | 0.288 | -0.423 | 67 |
| 68 | 0.375 | -0.7 | 0.167 | -0.406 | 0.36 | -0.921 | 0.291 | -0.425 | 68 |
| 69 | 0.363 | -0.703 | 0.172 | -0.408 | 0.344 | -0.92 | 0.293 | -0.426 | 69 |
| 70 | 0.35 | -0.706 | 0.177 | -0.409 | 0.328 | -0.92 | 0.295 | -0.428 | 70 |
| 71 | 0.338 | -0.708 | 0.182 | -0.411 | 0.313 | -0.918 | 0.297 | -0.429 | 71 |
| 72 | 0.326 | -0.71 | 0.187 | -0.412 | 0.297 | -0.917 | 0.299 | -0.431 | 72 |
| 73 | 0.314 | -0.712 | 0.192 | -0.413 | 0.282 | -0.915 | 0.301 | -0.432 | 73 |
| 74 | 0.302 | -0.714 | 0.196 | -0.414 | 0.267 | -0.913 | 0.302 | -0.433 | 74 |
| 75 | 0.29 | -0.715 | 0.201 | -0.415 | 0.252 | -0.91 | 0.304 | -0.434 | 75 |

| $\alpha = 0.5, \beta = -0.125$ | | | | | $\alpha = -0.5, \beta = 0.125$ | | | | |
|--------------------------------|--------|--------|-------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.278 | -0.716 | 0.206 | -0.415 | 0.237 | -0.908 | 0.306 | -0.434 | 76 |
| 77 | 0.266 | -0.717 | 0.211 | -0.416 | 0.223 | -0.905 | 0.308 | -0.435 | 77 |
| 78 | 0.254 | -0.718 | 0.215 | -0.416 | 0.208 | -0.901 | 0.309 | -0.435 | 78 |
| 79 | 0.242 | -0.718 | 0.22 | -0.416 | 0.194 | -0.898 | 0.311 | -0.435 | 79 |
| 80 | 0.23 | -0.718 | 0.224 | -0.416 | 0.18 | -0.894 | 0.312 | -0.435 | 80 |
| 81 | 0.218 | -0.718 | 0.229 | -0.416 | 0.166 | -0.889 | 0.314 | -0.435 | 81 |
| 82 | 0.207 | -0.717 | 0.233 | -0.416 | 0.153 | -0.885 | 0.315 | -0.435 | 82 |
| 83 | 0.195 | -0.716 | 0.237 | -0.416 | 0.14 | -0.88 | 0.317 | -0.435 | 83 |
| 84 | 0.183 | -0.715 | 0.241 | -0.415 | 0.126 | -0.875 | 0.318 | -0.435 | 84 |
| 85 | 0.172 | -0.714 | 0.245 | -0.414 | 0.113 | -0.87 | 0.319 | -0.434 | 85 |
| 86 | 0.161 | -0.712 | 0.249 | -0.414 | 0.101 | -0.864 | 0.32 | -0.433 | 86 |
| 87 | 0.149 | -0.711 | 0.253 | -0.413 | 0.088 | -0.859 | 0.321 | -0.432 | 87 |
| 88 | 0.138 | -0.709 | 0.257 | -0.412 | 0.076 | -0.853 | 0.322 | -0.431 | 88 |
| 89 | 0.127 | -0.706 | 0.26 | -0.41 | 0.064 | -0.846 | 0.323 | -0.43 | 89 |
| 90 | 0.116 | -0.704 | 0.264 | -0.409 | 0.052 | -0.84 | 0.324 | -0.429 | 90 |
| 91 | 0.105 | -0.701 | 0.267 | -0.408 | 0.04 | -0.833 | 0.325 | -0.428 | 91 |
| 92 | 0.095 | -0.698 | 0.271 | -0.406 | 0.029 | -0.826 | 0.326 | -0.426 | 92 |
| 93 | 0.084 | -0.694 | 0.274 | -0.404 | 0.018 | -0.819 | 0.326 | -0.424 | 93 |
| 94 | 0.074 | -0.691 | 0.277 | -0.403 | 0.007 | -0.812 | 0.327 | -0.423 | 94 |
| 95 | 0.064 | -0.687 | 0.28 | -0.401 | -0.004 | -0.805 | 0.327 | -0.421 | 95 |
| 96 | 0.053 | -0.683 | 0.283 | -0.399 | -0.014 | -0.797 | 0.328 | -0.419 | 96 |
| 97 | 0.044 | -0.679 | 0.285 | -0.397 | -0.024 | -0.789 | 0.328 | -0.417 | 97 |
| 98 | 0.034 | -0.675 | 0.288 | -0.394 | -0.034 | -0.781 | 0.328 | -0.415 | 98 |
| 99 | 0.024 | -0.67 | 0.29 | -0.392 | -0.044 | -0.773 | 0.329 | -0.412 | 99 |
| 100 | 0.015 | -0.665 | 0.293 | -0.39 | -0.053 | -0.764 | 0.329 | -0.41 | 100 |
| 101 | 0.006 | -0.66 | 0.295 | -0.387 | -0.062 | -0.756 | 0.329 | -0.407 | 101 |
| 102 | -0.004 | -0.655 | 0.297 | -0.384 | -0.071 | -0.747 | 0.329 | -0.405 | 102 |
| 103 | -0.012 | -0.649 | 0.299 | -0.382 | -0.08 | -0.739 | 0.329 | -0.402 | 103 |
| 104 | -0.021 | -0.644 | 0.301 | -0.379 | -0.088 | -0.73 | 0.328 | -0.399 | 104 |
| 105 | -0.03 | -0.638 | 0.302 | -0.376 | -0.096 | -0.721 | 0.328 | -0.396 | 105 |
| 106 | -0.038 | -0.632 | 0.304 | -0.373 | -0.104 | -0.711 | 0.328 | -0.393 | 106 |
| 107 | -0.046 | -0.626 | 0.305 | -0.37 | -0.112 | -0.702 | 0.327 | -0.39 | 107 |
| 108 | -0.054 | -0.619 | 0.306 | -0.366 | -0.119 | -0.693 | 0.327 | -0.387 | 108 |
| 109 | -0.062 | -0.613 | 0.308 | -0.363 | -0.126 | -0.683 | 0.326 | -0.383 | 109 |
| 110 | -0.069 | -0.606 | 0.308 | -0.36 | -0.133 | -0.674 | 0.325 | -0.38 | 110 |

| $\alpha = 0.5, \beta = -0.125$ | | | | | $\alpha = -0.5, \beta = 0.125$ | | | | |
|--------------------------------|--------|--------|-------|--------|--------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.077 | -0.599 | 0.309 | -0.356 | -0.14 | -0.664 | 0.324 | -0.377 | 111 |
| 112 | -0.084 | -0.592 | 0.31 | -0.353 | -0.146 | -0.654 | 0.323 | -0.373 | 112 |
| 113 | -0.09 | -0.585 | 0.31 | -0.349 | -0.152 | -0.644 | 0.322 | -0.369 | 113 |
| 114 | -0.097 | -0.578 | 0.311 | -0.346 | -0.158 | -0.634 | 0.321 | -0.366 | 114 |
| 115 | -0.103 | -0.571 | 0.311 | -0.342 | -0.163 | -0.624 | 0.32 | -0.362 | 115 |
| 116 | -0.11 | -0.563 | 0.311 | -0.338 | -0.169 | -0.614 | 0.319 | -0.358 | 116 |
| 117 | -0.116 | -0.556 | 0.311 | -0.334 | -0.174 | -0.604 | 0.317 | -0.354 | 117 |
| 118 | -0.121 | -0.548 | 0.311 | -0.33 | -0.178 | -0.594 | 0.316 | -0.35 | 118 |
| 119 | -0.127 | -0.54 | 0.31 | -0.326 | -0.183 | -0.584 | 0.314 | -0.346 | 119 |
| 120 | -0.132 | -0.532 | 0.31 | -0.323 | -0.187 | -0.573 | 0.312 | -0.342 | 120 |
| 121 | -0.137 | -0.524 | 0.309 | -0.318 | -0.191 | -0.563 | 0.311 | -0.338 | 121 |
| 122 | -0.142 | -0.516 | 0.308 | -0.314 | -0.195 | -0.553 | 0.309 | -0.333 | 122 |
| 123 | -0.147 | -0.508 | 0.307 | -0.31 | -0.198 | -0.542 | 0.307 | -0.329 | 123 |
| 124 | -0.151 | -0.499 | 0.306 | -0.306 | -0.202 | -0.532 | 0.305 | -0.325 | 124 |
| 125 | -0.155 | -0.491 | 0.305 | -0.302 | -0.205 | -0.522 | 0.302 | -0.32 | 125 |
| 126 | -0.159 | -0.482 | 0.303 | -0.297 | -0.207 | -0.511 | 0.3 | -0.316 | 126 |
| 127 | -0.163 | -0.474 | 0.302 | -0.293 | -0.21 | -0.501 | 0.298 | -0.311 | 127 |
| 128 | -0.166 | -0.465 | 0.3 | -0.289 | -0.212 | -0.49 | 0.295 | -0.306 | 128 |
| 129 | -0.169 | -0.456 | 0.298 | -0.284 | -0.214 | -0.48 | 0.293 | -0.302 | 129 |
| 130 | -0.172 | -0.448 | 0.296 | -0.28 | -0.216 | -0.47 | 0.29 | -0.297 | 130 |
| 131 | -0.175 | -0.439 | 0.294 | -0.275 | -0.218 | -0.459 | 0.287 | -0.292 | 131 |
| 132 | -0.178 | -0.43 | 0.291 | -0.271 | -0.219 | -0.449 | 0.284 | -0.287 | 132 |
| 133 | -0.18 | -0.422 | 0.289 | -0.266 | -0.22 | -0.439 | 0.281 | -0.282 | 133 |
| 134 | -0.182 | -0.413 | 0.286 | -0.261 | -0.221 | -0.429 | 0.277 | -0.277 | 134 |
| 135 | -0.184 | -0.404 | 0.283 | -0.257 | -0.222 | -0.419 | 0.274 | -0.272 | 135 |

| $\alpha = 0.75, \beta = 0.438$ | | | | | $\alpha = -0.75, \beta = -0.438$ | | | | |
|--------------------------------|-------|--------|--------|--------|----------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.658 | 0.274 | -0.018 | -0.021 | 1.303 | -0.824 | 0.192 | -0.089 | 6 |
| 7 | 0.672 | 0.247 | -0.02 | -0.025 | 1.279 | -0.821 | 0.208 | -0.107 | 7 |
| 8 | 0.684 | 0.222 | -0.022 | -0.029 | 1.256 | -0.82 | 0.223 | -0.126 | 8 |
| 9 | 0.695 | 0.197 | -0.024 | -0.033 | 1.235 | -0.82 | 0.236 | -0.144 | 9 |
| 10 | 0.704 | 0.173 | -0.025 | -0.038 | 1.214 | -0.821 | 0.248 | -0.161 | 10 |
| 11 | 0.712 | 0.15 | -0.027 | -0.042 | 1.193 | -0.823 | 0.259 | -0.178 | 11 |
| 12 | 0.719 | 0.128 | -0.028 | -0.047 | 1.173 | -0.826 | 0.269 | -0.194 | 12 |
| 13 | 0.725 | 0.106 | -0.029 | -0.051 | 1.154 | -0.83 | 0.279 | -0.21 | 13 |
| 14 | 0.73 | 0.084 | -0.03 | -0.056 | 1.135 | -0.834 | 0.287 | -0.225 | 14 |
| 15 | 0.734 | 0.063 | -0.031 | -0.06 | 1.116 | -0.839 | 0.296 | -0.24 | 15 |
| 16 | 0.738 | 0.042 | -0.032 | -0.065 | 1.097 | -0.844 | 0.303 | -0.254 | 16 |
| 17 | 0.74 | 0.021 | -0.033 | -0.069 | 1.078 | -0.849 | 0.311 | -0.269 | 17 |
| 18 | 0.742 | 0.001 | -0.034 | -0.074 | 1.06 | -0.855 | 0.318 | -0.282 | 18 |
| 19 | 0.744 | -0.019 | -0.034 | -0.079 | 1.042 | -0.861 | 0.325 | -0.296 | 19 |
| 20 | 0.744 | -0.038 | -0.034 | -0.084 | 1.024 | -0.867 | 0.331 | -0.309 | 20 |
| 21 | 0.744 | -0.05 | -0.035 | -0.088 | 1.006 | -0.873 | 0.338 | -0.321 | 21 |
| 22 | 0.744 | -0.077 | -0.035 | -0.093 | 0.988 | -0.879 | 0.344 | -0.333 | 22 |
| 23 | 0.743 | -0.096 | -0.035 | -0.098 | 0.97 | -0.884 | 0.35 | -0.345 | 23 |
| 24 | 0.741 | -0.114 | -0.035 | -0.103 | 0.952 | -0.89 | 0.355 | -0.357 | 24 |
| 25 | 0.739 | -0.133 | -0.035 | -0.108 | 0.935 | -0.896 | 0.361 | -0.363 | 25 |
| 26 | 0.737 | -0.151 | -0.035 | -0.112 | 0.917 | -0.901 | 0.366 | -0.378 | 26 |
| 27 | 0.734 | -0.169 | -0.034 | -0.117 | 0.9 | -0.907 | 0.371 | -0.389 | 27 |
| 28 | 0.73 | -0.186 | -0.034 | -0.122 | 0.883 | -0.912 | 0.377 | -0.399 | 28 |
| 29 | 0.726 | -0.203 | -0.033 | -0.127 | 0.865 | -0.917 | 0.382 | -0.408 | 29 |
| 30 | 0.721 | -0.22 | -0.033 | -0.132 | 0.848 | -0.922 | 0.386 | -0.418 | 30 |
| 31 | 0.717 | -0.237 | -0.032 | -0.137 | 0.831 | -0.926 | 0.391 | -0.426 | 31 |
| 32 | 0.711 | -0.253 | -0.031 | -0.141 | 0.814 | -0.931 | 0.396 | -0.435 | 32 |
| 33 | 0.705 | -0.269 | -0.03 | -0.146 | 0.798 | -0.935 | 0.4 | -0.443 | 33 |
| 34 | 0.699 | -0.285 | -0.029 | -0.151 | 0.781 | -0.939 | 0.405 | -0.451 | 34 |
| 35 | 0.693 | -0.301 | -0.028 | -0.156 | 0.764 | -0.942 | 0.409 | -0.459 | 35 |
| 36 | 0.686 | -0.316 | -0.027 | -0.16 | 0.748 | -0.946 | 0.413 | -0.466 | 36 |
| 37 | 0.679 | -0.331 | -0.026 | -0.165 | 0.731 | -0.949 | 0.417 | -0.473 | 37 |
| 38 | 0.671 | -0.345 | -0.025 | -0.169 | 0.715 | -0.952 | 0.421 | -0.479 | 38 |
| 39 | 0.663 | -0.36 | -0.023 | -0.174 | 0.699 | -0.955 | 0.425 | -0.486 | 39 |
| 40 | 0.655 | -0.374 | -0.022 | -0.179 | 0.683 | -0.957 | 0.429 | -0.492 | 40 |

| $\alpha = 0.75, \beta = 0.438$ | | | | | $\alpha = -0.75, \beta = -0.438$ | | | | |
|--------------------------------|-------|--------|--------|--------|----------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.647 | -0.387 | -0.02 | -0.183 | 0.667 | -0.96 | 0.433 | -0.497 | 41 |
| 42 | 0.638 | -0.401 | -0.019 | -0.188 | 0.651 | -0.962 | 0.437 | -0.503 | 42 |
| 43 | 0.629 | -0.414 | -0.017 | -0.192 | 0.635 | -0.963 | 0.44 | -0.508 | 43 |
| 44 | 0.62 | -0.426 | -0.015 | -0.196 | 0.619 | -0.965 | 0.444 | -0.512 | 44 |
| 45 | 0.61 | -0.439 | -0.013 | -0.201 | 0.604 | -0.966 | 0.447 | -0.517 | 45 |
| 46 | 0.6 | -0.451 | -0.011 | -0.205 | 0.589 | -0.967 | 0.45 | -0.521 | 46 |
| 47 | 0.59 | -0.462 | -0.009 | -0.209 | 0.573 | -0.968 | 0.453 | -0.525 | 47 |
| 48 | 0.58 | -0.474 | -0.007 | -0.214 | 0.558 | -0.968 | 0.457 | -0.528 | 48 |
| 49 | 0.569 | -0.485 | -0.005 | -0.218 | 0.543 | -0.969 | 0.46 | -0.532 | 49 |
| 50 | 0.558 | -0.495 | -0.003 | -0.222 | 0.528 | -0.969 | 0.462 | -0.535 | 50 |
| 51 | 0.548 | -0.506 | -0.001 | -0.226 | 0.513 | -0.969 | 0.465 | -0.538 | 51 |
| 52 | 0.536 | -0.516 | 0.002 | -0.23 | 0.498 | -0.968 | 0.468 | -0.54 | 52 |
| 53 | 0.525 | -0.525 | 0.004 | -0.233 | 0.484 | -0.968 | 0.471 | -0.542 | 53 |
| 54 | 0.514 | -0.534 | 0.007 | -0.237 | 0.469 | -0.967 | 0.473 | -0.544 | 54 |
| 55 | 0.502 | -0.543 | 0.009 | -0.241 | 0.455 | -0.966 | 0.476 | -0.546 | 55 |
| 56 | 0.49 | -0.552 | 0.012 | -0.245 | 0.441 | -0.964 | 0.478 | -0.548 | 56 |
| 57 | 0.479 | -0.56 | 0.014 | -0.248 | 0.427 | -0.963 | 0.48 | -0.549 | 57 |
| 58 | 0.467 | -0.568 | 0.017 | -0.252 | 0.413 | -0.961 | 0.483 | -0.55 | 58 |
| 59 | 0.454 | -0.575 | 0.02 | -0.255 | 0.399 | -0.959 | 0.485 | -0.551 | 59 |
| 60 | 0.442 | -0.582 | 0.023 | -0.258 | 0.386 | -0.957 | 0.487 | -0.552 | 60 |
| 61 | 0.43 | -0.589 | 0.025 | -0.262 | 0.372 | -0.954 | 0.488 | -0.552 | 61 |
| 62 | 0.418 | -0.596 | 0.028 | -0.265 | 0.359 | -0.952 | 0.49 | -0.552 | 62 |
| 63 | 0.405 | -0.602 | 0.031 | -0.268 | 0.345 | -0.949 | 0.492 | -0.552 | 63 |
| 64 | 0.393 | -0.607 | 0.034 | -0.271 | 0.332 | -0.946 | 0.494 | -0.552 | 64 |
| 65 | 0.38 | -0.613 | 0.037 | -0.274 | 0.319 | -0.943 | 0.495 | -0.551 | 65 |
| 66 | 0.368 | -0.618 | 0.04 | -0.277 | 0.307 | -0.939 | 0.496 | -0.55 | 66 |
| 67 | 0.355 | -0.622 | 0.043 | -0.279 | 0.294 | -0.936 | 0.498 | -0.55 | 67 |
| 68 | 0.342 | -0.627 | 0.046 | -0.282 | 0.282 | -0.932 | 0.499 | -0.549 | 68 |
| 69 | 0.33 | -0.631 | 0.049 | -0.285 | 0.269 | -0.928 | 0.5 | -0.547 | 69 |
| 70 | 0.317 | -0.634 | 0.052 | -0.287 | 0.257 | -0.924 | 0.501 | -0.546 | 70 |
| 71 | 0.305 | -0.637 | 0.055 | -0.29 | 0.245 | -0.919 | 0.502 | -0.544 | 71 |
| 72 | 0.292 | -0.64 | 0.058 | -0.292 | 0.233 | -0.915 | 0.503 | -0.542 | 72 |
| 73 | 0.279 | -0.643 | 0.061 | -0.294 | 0.221 | -0.91 | 0.503 | -0.54 | 73 |
| 74 | 0.267 | -0.645 | 0.065 | -0.296 | 0.21 | -0.905 | 0.504 | -0.538 | 74 |
| 75 | 0.254 | -0.647 | 0.068 | -0.298 | 0.198 | -0.9 | 0.504 | -0.536 | 75 |

| $\alpha = 0.75, \beta = 0.438$ | | | | | $\alpha = -0.75, \beta = -0.438$ | | | | |
|--------------------------------|--------|--------|-------|--------|----------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.242 | -0.649 | 0.071 | -0.3 | 0.187 | -0.895 | 0.505 | -0.533 | 76 |
| 77 | 0.229 | -0.65 | 0.074 | -0.302 | 0.176 | -0.89 | 0.505 | -0.531 | 77 |
| 78 | 0.217 | -0.651 | 0.077 | -0.304 | 0.165 | -0.884 | 0.505 | -0.528 | 78 |
| 79 | 0.205 | -0.652 | 0.08 | -0.305 | 0.154 | -0.878 | 0.505 | -0.525 | 79 |
| 80 | 0.193 | -0.652 | 0.084 | -0.307 | 0.144 | -0.873 | 0.505 | -0.522 | 80 |
| 81 | 0.181 | -0.652 | 0.087 | -0.308 | 0.133 | -0.867 | 0.505 | -0.519 | 81 |
| 82 | 0.169 | -0.652 | 0.09 | -0.309 | 0.123 | -0.861 | 0.505 | -0.515 | 82 |
| 83 | 0.157 | -0.651 | 0.093 | -0.31 | 0.113 | -0.854 | 0.504 | -0.512 | 83 |
| 84 | 0.145 | -0.65 | 0.096 | -0.312 | 0.103 | -0.848 | 0.504 | -0.508 | 84 |
| 85 | 0.133 | -0.649 | 0.099 | -0.313 | 0.093 | -0.841 | 0.503 | -0.505 | 85 |
| 86 | 0.122 | -0.648 | 0.102 | -0.313 | 0.083 | -0.835 | 0.503 | -0.501 | 86 |
| 87 | 0.11 | -0.646 | 0.105 | -0.314 | 0.074 | -0.828 | 0.502 | -0.497 | 87 |
| 88 | 0.099 | -0.644 | 0.109 | -0.315 | 0.065 | -0.821 | 0.501 | -0.493 | 88 |
| 89 | 0.088 | -0.642 | 0.112 | -0.315 | 0.056 | -0.814 | 0.5 | -0.489 | 89 |
| 90 | 0.077 | -0.639 | 0.115 | -0.316 | 0.047 | -0.807 | 0.499 | -0.485 | 90 |
| 93 | 0.066 | -0.636 | 0.118 | -0.316 | 0.038 | -0.799 | 0.497 | -0.48 | 91 |
| 92 | 0.055 | -0.633 | 0.121 | -0.316 | 0.029 | -0.792 | 0.496 | -0.476 | 92 |
| 93 | 0.045 | -0.63 | 0.123 | -0.317 | 0.021 | -0.784 | 0.494 | -0.471 | 93 |
| 94 | 0.035 | -0.626 | 0.126 | -0.317 | 0.012 | -0.777 | 0.493 | -0.467 | 94 |
| 95 | 0.025 | -0.622 | 0.129 | -0.317 | 0.004 | -0.769 | 0.491 | -0.462 | 95 |
| 96 | 0.015 | -0.619 | 0.132 | -0.316 | -0.004 | -0.761 | 0.489 | -0.457 | 96 |
| 97 | 0.005 | -0.614 | 0.135 | -0.316 | -0.011 | -0.753 | 0.487 | -0.453 | 97 |
| 98 | -0.005 | -0.61 | 0.137 | -0.316 | -0.019 | -0.745 | 0.485 | -0.448 | 98 |
| 99 | -0.014 | -0.605 | 0.14 | -0.315 | -0.026 | -0.737 | 0.483 | -0.443 | 99 |
| 100 | -0.023 | -0.6 | 0.142 | -0.315 | -0.034 | -0.728 | 0.481 | -0.438 | 100 |
| 101 | -0.032 | -0.595 | 0.145 | -0.314 | -0.041 | -0.72 | 0.479 | -0.433 | 101 |
| 102 | -0.041 | -0.59 | 0.147 | -0.313 | -0.048 | -0.712 | 0.476 | -0.428 | 102 |
| 103 | -0.049 | -0.584 | 0.15 | -0.313 | -0.054 | -0.703 | 0.473 | -0.422 | 103 |
| 104 | -0.058 | -0.579 | 0.152 | -0.312 | -0.061 | -0.695 | 0.471 | -0.417 | 104 |
| 105 | -0.066 | -0.573 | 0.154 | -0.311 | -0.067 | -0.686 | 0.468 | -0.412 | 105 |
| 106 | -0.074 | -0.567 | 0.157 | -0.309 | -0.073 | -0.677 | 0.465 | -0.407 | 106 |
| 107 | -0.081 | -0.561 | 0.159 | -0.308 | -0.079 | -0.668 | 0.462 | -0.401 | 107 |
| 108 | -0.089 | -0.555 | 0.161 | -0.307 | -0.085 | -0.659 | 0.459 | -0.396 | 108 |
| 109 | -0.096 | -0.548 | 0.163 | -0.305 | -0.091 | -0.65 | 0.456 | -0.39 | 109 |
| 110 | -0.103 | -0.542 | 0.165 | -0.304 | -0.096 | -0.641 | 0.452 | -0.385 | 110 |

| $\alpha = 0.75, \beta = 0.438$ | | | | | $\alpha = -0.75, \beta = -0.438$ | | | | |
|--------------------------------|--------|--------|-------|--------|----------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.11 | -0.535 | 0.167 | -0.302 | -0.102 | -0.632 | 0.449 | -0.38 | 111 |
| 112 | -0.116 | -0.528 | 0.168 | -0.3 | -0.107 | -0.623 | 0.445 | -0.374 | 112 |
| 113 | -0.123 | -0.521 | 0.17 | -0.299 | -0.112 | -0.614 | 0.442 | -0.369 | 113 |
| 114 | -0.129 | -0.514 | 0.172 | -0.297 | -0.116 | -0.604 | 0.438 | -0.363 | 114 |
| 115 | -0.134 | -0.507 | 0.173 | -0.295 | -0.121 | -0.595 | 0.434 | -0.357 | 115 |
| 116 | -0.14 | -0.499 | 0.175 | -0.293 | -0.125 | -0.586 | 0.43 | -0.352 | 116 |
| 117 | -0.145 | -0.492 | 0.176 | -0.291 | -0.129 | -0.576 | 0.426 | -0.346 | 117 |
| 118 | -0.15 | -0.484 | 0.177 | -0.288 | -0.133 | -0.567 | 0.422 | -0.341 | 118 |
| 119 | -0.155 | -0.477 | 0.178 | -0.286 | -0.137 | -0.557 | 0.418 | -0.335 | 119 |
| 120 | -0.16 | -0.469 | 0.179 | -0.283 | -0.141 | -0.548 | 0.413 | -0.33 | 120 |
| 121 | -0.164 | -0.461 | 0.18 | -0.281 | -0.144 | -0.538 | 0.409 | -0.324 | 121 |
| 122 | -0.168 | -0.454 | 0.181 | -0.279 | -0.147 | -0.529 | 0.404 | -0.318 | 122 |
| 123 | -0.172 | -0.446 | 0.182 | -0.276 | -0.151 | -0.519 | 0.4 | -0.313 | 123 |
| 124 | -0.175 | -0.438 | 0.183 | -0.273 | -0.153 | -0.509 | 0.395 | -0.307 | 124 |
| 125 | -0.179 | -0.43 | 0.183 | -0.27 | -0.156 | -0.5 | 0.39 | -0.302 | 125 |
| 126 | -0.182 | -0.422 | 0.184 | -0.268 | -0.159 | -0.49 | 0.386 | -0.296 | 126 |
| 127 | -0.185 | -0.414 | 0.184 | -0.265 | -0.161 | -0.48 | 0.381 | -0.291 | 127 |
| 128 | -0.187 | -0.406 | 0.184 | -0.262 | -0.163 | -0.471 | 0.376 | -0.285 | 128 |
| 129 | -0.19 | -0.398 | 0.184 | -0.259 | -0.165 | -0.461 | 0.371 | -0.28 | 129 |
| 130 | -0.192 | -0.39 | 0.184 | -0.255 | -0.167 | -0.451 | 0.365 | -0.274 | 130 |
| 131 | -0.194 | -0.382 | 0.184 | -0.252 | -0.169 | -0.442 | 0.36 | -0.268 | 131 |
| 132 | -0.195 | -0.374 | 0.183 | -0.249 | -0.17 | -0.432 | 0.355 | -0.263 | 132 |
| 133 | -0.197 | -0.366 | 0.183 | -0.246 | -0.171 | -0.422 | 0.35 | -0.257 | 133 |
| 134 | -0.198 | -0.358 | 0.182 | -0.242 | -0.172 | -0.412 | 0.344 | -0.252 | 134 |
| 135 | -0.199 | -0.35 | 0.181 | -0.239 | -0.173 | -0.402 | 0.339 | -0.246 | 135 |

| $\alpha = 0.75, \beta = 0.25$ | | | | | $\alpha = -0.75, \beta = -0.25$ | | | | |
|-------------------------------|-------|--------|--------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.751 | 0.152 | -0.022 | -0.029 | 1.503 | -0.689 | 0.221 | -0.058 | 6 |
| 7 | 0.759 | 0.13 | -0.024 | -0.034 | 1.471 | -0.704 | 0.239 | -0.075 | 7 |
| 8 | 0.765 | 0.108 | -0.026 | -0.04 | 1.442 | -0.718 | 0.254 | -0.091 | 8 |
| 9 | 0.771 | 0.087 | -0.028 | -0.045 | 1.415 | -0.73 | 0.268 | -0.107 | 9 |
| 10 | 0.776 | 0.067 | -0.03 | -0.051 | 1.389 | -0.743 | 0.28 | -0.122 | 10 |
| 11 | 0.78 | 0.047 | -0.031 | -0.057 | 1.364 | -0.755 | 0.292 | -0.137 | 11 |
| 12 | 0.783 | 0.027 | -0.032 | -0.062 | 1.34 | -0.767 | 0.302 | -0.152 | 12 |
| 13 | 0.786 | 0.008 | -0.034 | -0.068 | 1.317 | -0.778 | 0.311 | -0.166 | 13 |
| 14 | 0.788 | -0.011 | -0.035 | -0.074 | 1.294 | -0.79 | 0.319 | -0.18 | 14 |
| 15 | 0.79 | -0.03 | -0.035 | -0.079 | 1.272 | -0.802 | 0.327 | -0.194 | 15 |
| 16 | 0.791 | -0.049 | -0.036 | -0.085 | 1.25 | -0.813 | 0.334 | -0.208 | 16 |
| 17 | 0.791 | -0.067 | -0.036 | -0.091 | 1.229 | -0.825 | 0.341 | -0.221 | 17 |
| 18 | 0.791 | -0.085 | -0.037 | -0.097 | 1.208 | -0.836 | 0.348 | -0.234 | 18 |
| 19 | 0.791 | -0.103 | -0.037 | -0.103 | 1.187 | -0.847 | 0.354 | -0.247 | 19 |
| 20 | 0.79 | -0.121 | -0.037 | -0.109 | 1.166 | -0.858 | 0.36 | -0.259 | 20 |
| 21 | 0.788 | -0.139 | -0.037 | -0.114 | 1.145 | -0.868 | 0.365 | -0.271 | 21 |
| 22 | 0.786 | -0.156 | -0.036 | -0.12 | 1.125 | -0.879 | 0.37 | -0.283 | 22 |
| 23 | 0.784 | -0.173 | -0.036 | -0.126 | 1.104 | -0.889 | 0.375 | -0.294 | 23 |
| 24 | 0.781 | -0.19 | -0.036 | -0.132 | 1.084 | -0.898 | 0.38 | -0.305 | 24 |
| 25 | 0.777 | -0.207 | -0.035 | -0.138 | 1.064 | -0.908 | 0.385 | -0.316 | 25 |
| 26 | 0.774 | -0.223 | -0.034 | -0.143 | 1.044 | -0.917 | 0.389 | -0.327 | 26 |
| 27 | 0.77 | -0.24 | -0.033 | -0.149 | 1.024 | -0.926 | 0.393 | -0.337 | 27 |
| 28 | 0.765 | -0.256 | -0.032 | -0.155 | 1.004 | -0.934 | 0.397 | -0.347 | 29 |
| 29 | 0.76 | -0.272 | -0.031 | -0.161 | 0.984 | -0.942 | 0.401 | -0.356 | 29 |
| 30 | 0.755 | -0.287 | -0.03 | -0.166 | 0.965 | -0.95 | 0.404 | -0.366 | 30 |
| 31 | 0.749 | -0.303 | -0.029 | -0.172 | 0.945 | -0.957 | 0.408 | -0.375 | 31 |
| 32 | 0.743 | -0.318 | -0.027 | -0.178 | 0.926 | -0.965 | 0.411 | -0.384 | 32 |
| 33 | 0.737 | -0.333 | -0.025 | -0.183 | 0.906 | -0.971 | 0.415 | -0.392 | 33 |
| 34 | 0.73 | -0.348 | -0.024 | -0.189 | 0.887 | -0.978 | 0.418 | -0.4 | 34 |
| 35 | 0.723 | -0.362 | -0.022 | -0.194 | 0.868 | -0.984 | 0.421 | -0.408 | 35 |
| 36 | 0.715 | -0.376 | -0.02 | -0.2 | 0.849 | -0.989 | 0.424 | -0.416 | 36 |
| 37 | 0.708 | -0.39 | -0.018 | -0.205 | 0.83 | -0.994 | 0.426 | -0.423 | 37 |
| 38 | 0.7 | -0.404 | -0.016 | -0.21 | 0.811 | -0.999 | 0.429 | -0.43 | 38 |
| 39 | 0.691 | -0.417 | -0.014 | -0.216 | 0.793 | -1.004 | 0.432 | -0.437 | 39 |
| 40 | 0.683 | -0.43 | -0.011 | -0.221 | 0.774 | -1.008 | 0.434 | -0.444 | 40 |

| $\alpha = 0.75, \beta = 0.25$ | | | | | $\alpha = -0.75, \beta = -0.25$ | | | | |
|-------------------------------|-------|--------|--------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.674 | -0.443 | -0.009 | -0.226 | 0.756 | -1.012 | 0.437 | -0.45 | 41 |
| 42 | 0.665 | -0.456 | -0.007 | -0.231 | 0.737 | -1.016 | 0.439 | -0.456 | 42 |
| 43 | 0.655 | -0.468 | -0.004 | -0.236 | 0.719 | -1.019 | 0.441 | -0.462 | 43 |
| 44 | 0.646 | -0.48 | -0.001 | -0.241 | 0.701 | -1.022 | 0.443 | -0.468 | 44 |
| 45 | 0.636 | -0.492 | 0.001 | -0.246 | 0.683 | -1.024 | 0.445 | -0.473 | 45 |
| 46 | 0.626 | -0.503 | 0.004 | -0.251 | 0.665 | -1.027 | 0.448 | -0.478 | 46 |
| 47 | 0.615 | -0.514 | 0.007 | -0.255 | 0.647 | -1.028 | 0.449 | -0.483 | 47 |
| 48 | 0.605 | -0.525 | 0.01 | -0.26 | 0.63 | -1.03 | 0.451 | -0.487 | 48 |
| 49 | 0.594 | -0.535 | 0.013 | -0.264 | 0.612 | -1.031 | 0.453 | -0.491 | 49 |
| 50 | 0.583 | -0.545 | 0.016 | -0.269 | 0.595 | -1.032 | 0.455 | -0.495 | 50 |
| 51 | 0.572 | -0.555 | 0.019 | -0.273 | 0.578 | -1.033 | 0.457 | -0.499 | 51 |
| 52 | 0.561 | -0.564 | 0.023 | -0.277 | 0.561 | -1.033 | 0.458 | -0.503 | 52 |
| 53 | 0.549 | -0.574 | 0.026 | -0.282 | 0.544 | -1.033 | 0.46 | -0.506 | 53 |
| 54 | 0.538 | -0.582 | 0.029 | -0.286 | 0.527 | -1.033 | 0.461 | -0.509 | 54 |
| 55 | 0.526 | -0.591 | 0.033 | -0.29 | 0.511 | -1.032 | 0.463 | -0.512 | 55 |
| 56 | 0.514 | -0.599 | 0.036 | -0.294 | 0.494 | -1.031 | 0.464 | -0.514 | 56 |
| 57 | 0.502 | -0.607 | 0.04 | -0.297 | 0.478 | -1.03 | 0.465 | -0.517 | 57 |
| 59 | 0.49 | -0.614 | 0.043 | -0.301 | 0.462 | -1.029 | 0.466 | -0.519 | 58 |
| 59 | 0.478 | -0.622 | 0.047 | -0.305 | 0.446 | -1.027 | 0.467 | -0.521 | 59 |
| 60 | 0.465 | -0.628 | 0.05 | -0.308 | 0.43 | -1.025 | 0.469 | -0.522 | 60 |
| 61 | 0.453 | -0.635 | 0.054 | -0.311 | 0.414 | -1.023 | 0.47 | -0.524 | 61 |
| 62 | 0.44 | -0.641 | 0.058 | -0.315 | 0.399 | -1.021 | 0.471 | -0.525 | 62 |
| 63 | 0.428 | -0.647 | 0.062 | -0.318 | 0.384 | -1.018 | 0.471 | -0.526 | 63 |
| 64 | 0.415 | -0.652 | 0.065 | -0.321 | 0.369 | -1.015 | 0.472 | -0.527 | 64 |
| 65 | 0.402 | -0.657 | 0.069 | -0.324 | 0.354 | -1.012 | 0.473 | -0.527 | 65 |
| 66 | 0.39 | -0.662 | 0.073 | -0.327 | 0.339 | -1.008 | 0.474 | -0.528 | 66 |
| 67 | 0.377 | -0.667 | 0.077 | -0.329 | 0.325 | -1.004 | 0.474 | -0.528 | 67 |
| 68 | 0.364 | -0.671 | 0.081 | -0.332 | 0.31 | -1.001 | 0.475 | -0.528 | 68 |
| 69 | 0.351 | -0.675 | 0.085 | -0.334 | 0.296 | -0.996 | 0.475 | -0.528 | 69 |
| 70 | 0.338 | -0.678 | 0.088 | -0.337 | 0.282 | -0.992 | 0.476 | -0.527 | 70 |
| 71 | 0.326 | -0.681 | 0.092 | -0.339 | 0.268 | -0.987 | 0.476 | -0.527 | 71 |
| 72 | 0.313 | -0.684 | 0.096 | -0.341 | 0.254 | -0.983 | 0.477 | -0.526 | 72 |
| 73 | 0.3 | -0.687 | 0.1 | -0.343 | 0.241 | -0.978 | 0.477 | -0.525 | 73 |
| 74 | 0.287 | -0.689 | 0.104 | -0.345 | 0.228 | -0.973 | 0.477 | -0.524 | 74 |
| 75 | 0.275 | -0.691 | 0.108 | -0.347 | 0.215 | -0.967 | 0.477 | -0.523 | 75 |

| $\alpha = 0.75, \beta = 0.25$ | | | | | $\alpha = -0.75, \beta = -0.25$ | | | | |
|-------------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.262 | -0.692 | 0.112 | -0.348 | 0.202 | -0.962 | 0.477 | -0.521 | 76 |
| 77 | 0.249 | -0.694 | 0.115 | -0.35 | 0.189 | -0.956 | 0.477 | -0.52 | 77 |
| 78 | 0.237 | -0.694 | 0.119 | -0.351 | 0.177 | -0.95 | 0.477 | -0.518 | 78 |
| 79 | 0.224 | -0.695 | 0.123 | -0.352 | 0.164 | -0.944 | 0.477 | -0.516 | 79 |
| 80 | 0.212 | -0.695 | 0.127 | -0.353 | 0.152 | -0.937 | 0.476 | -0.514 | 80 |
| 81 | 0.199 | -0.695 | 0.131 | -0.355 | 0.14 | -0.931 | 0.476 | -0.512 | 81 |
| 82 | 0.187 | -0.695 | 0.134 | -0.356 | 0.128 | -0.924 | 0.476 | -0.51 | 82 |
| 83 | 0.175 | -0.694 | 0.138 | -0.356 | 0.117 | -0.917 | 0.475 | -0.507 | 83 |
| 84 | 0.163 | -0.693 | 0.142 | -0.357 | 0.106 | -0.91 | 0.475 | -0.505 | 84 |
| 85 | 0.151 | -0.692 | 0.145 | -0.358 | 0.094 | -0.903 | 0.474 | -0.502 | 85 |
| 86 | 0.139 | -0.691 | 0.149 | -0.358 | 0.083 | -0.896 | 0.473 | -0.499 | 86 |
| 87 | 0.127 | -0.689 | 0.153 | -0.358 | 0.073 | -0.888 | 0.473 | -0.496 | 87 |
| 88 | 0.116 | -0.687 | 0.156 | -0.359 | 0.062 | -0.881 | 0.472 | -0.493 | 88 |
| 89 | 0.104 | -0.685 | 0.159 | -0.359 | 0.052 | -0.873 | 0.471 | -0.49 | 89 |
| 90 | 0.093 | -0.682 | 0.163 | -0.359 | 0.042 | -0.865 | 0.47 | -0.486 | 90 |
| 91 | 0.082 | -0.679 | 0.166 | -0.358 | 0.032 | -0.857 | 0.469 | -0.483 | 91 |
| 92 | 0.071 | -0.676 | 0.169 | -0.358 | 0.022 | -0.849 | 0.467 | -0.479 | 92 |
| 93 | 0.06 | -0.673 | 0.173 | -0.358 | 0.013 | -0.841 | 0.466 | -0.476 | 93 |
| 94 | 0.049 | -0.669 | 0.176 | -0.357 | 0.003 | -0.832 | 0.465 | -0.472 | 94 |
| 95 | 0.039 | -0.665 | 0.179 | -0.357 | -0.006 | -0.824 | 0.463 | -0.468 | 95 |
| 96 | 0.029 | -0.661 | 0.182 | -0.356 | -0.015 | -0.815 | 0.462 | -0.464 | 96 |
| 97 | 0.018 | -0.657 | 0.185 | -0.355 | -0.024 | -0.806 | 0.46 | -0.46 | 97 |
| 98 | 0.008 | -0.653 | 0.188 | -0.354 | -0.032 | -0.797 | 0.458 | -0.456 | 98 |
| 99 | -0.001 | -0.648 | 0.191 | -0.353 | -0.04 | -0.788 | 0.456 | -0.452 | 99 |
| 700 | -0.011 | -0.643 | 0.193 | -0.352 | -0.048 | -0.779 | 0.455 | -0.447 | 100 |
| 101 | -0.02 | -0.637 | 0.196 | -0.351 | -0.056 | -0.77 | 0.452 | -0.443 | 101 |
| 102 | -0.029 | -0.632 | 0.198 | -0.349 | -0.064 | -0.761 | 0.45 | -0.438 | 102 |
| 103 | -0.038 | -0.627 | 0.201 | -0.348 | -0.071 | -0.752 | 0.448 | -0.434 | 103 |
| 104 | -0.047 | -0.621 | 0.203 | -0.346 | -0.079 | -0.742 | 0.446 | -0.429 | 104 |
| 105 | -0.056 | -0.615 | 0.206 | -0.344 | -0.086 | -0.733 | 0.444 | -0.425 | 105 |
| 106 | -0.064 | -0.609 | 0.208 | -0.343 | -0.092 | -0.723 | 0.441 | -0.42 | 106 |
| 107 | -0.072 | -0.602 | 0.21 | -0.341 | -0.099 | -0.713 | 0.439 | -0.415 | 107 |
| 108 | -0.08 | -0.596 | 0.212 | -0.339 | -0.105 | -0.703 | 0.436 | -0.41 | 108 |
| 109 | -0.088 | -0.589 | 0.214 | -0.337 | -0.112 | -0.694 | 0.433 | -0.405 | 109 |
| 110 | -0.095 | -0.582 | 0.216 | -0.335 | -0.118 | -0.684 | 0.43 | -0.4 | 110 |

| $\alpha = 0.75, \beta = 0.25$ | | | | | $\alpha = -0.75, \beta = -0.25$ | | | | |
|-------------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.102 | -0.575 | 0.217 | -0.332 | -0.123 | -0.674 | 0.427 | -0.395 | 111 |
| 112 | -0.109 | -0.568 | 0.219 | -0.33 | -0.129 | -0.664 | 0.424 | -0.39 | 112 |
| 113 | -0.116 | -0.561 | 0.22 | -0.328 | -0.134 | -0.654 | 0.421 | -0.385 | 113 |
| 114 | -0.122 | -0.554 | 0.222 | -0.325 | -0.139 | -0.643 | 0.418 | -0.38 | 114 |
| 115 | -0.129 | -0.546 | 0.223 | -0.323 | -0.144 | -0.633 | 0.415 | -0.375 | 115 |
| 116 | -0.134 | -0.539 | 0.224 | -0.32 | -0.149 | -0.623 | 0.412 | -0.37 | 116 |
| 117 | -0.14 | -0.531 | 0.225 | -0.317 | -0.153 | -0.613 | 0.408 | -0.364 | 117 |
| 118 | -0.146 | -0.523 | 0.226 | -0.314 | -0.157 | -0.602 | 0.404 | -0.359 | 118 |
| 119 | -0.151 | -0.515 | 0.227 | -0.311 | -0.162 | -0.592 | 0.401 | -0.354 | 119 |
| 120 | -0.156 | -0.507 | 0.227 | -0.308 | -0.165 | -0.582 | 0.397 | -0.348 | 120 |
| 121 | -0.161 | -0.499 | 0.228 | -0.305 | -0.169 | -0.571 | 0.393 | -0.343 | 121 |
| 122 | -0.165 | -0.491 | 0.228 | -0.302 | -0.172 | -0.561 | 0.389 | -0.338 | 122 |
| 123 | -0.169 | -0.483 | 0.229 | -0.299 | -0.176 | -0.551 | 0.385 | -0.332 | 123 |
| 124 | -0.173 | -0.474 | 0.229 | -0.295 | -0.179 | -0.54 | 0.381 | -0.327 | 124 |
| 125 | -0.177 | -0.466 | 0.229 | -0.292 | -0.181 | -0.53 | 0.377 | -0.321 | 125 |
| 126 | -0.181 | -0.458 | 0.229 | -0.289 | -0.184 | -0.519 | 0.373 | -0.316 | 126 |
| 127 | -0.184 | -0.449 | 0.229 | -0.285 | -0.186 | -0.509 | 0.368 | -0.31 | 127 |
| 128 | -0.187 | -0.441 | 0.228 | -0.281 | -0.189 | -0.498 | 0.364 | -0.305 | 128 |
| 129 | -0.19 | -0.432 | 0.228 | -0.278 | -0.191 | -0.488 | 0.36 | -0.299 | 129 |
| 130 | -0.192 | -0.424 | 0.227 | -0.274 | -0.192 | -0.477 | 0.355 | -0.294 | 130 |
| 131 | -0.195 | -0.415 | 0.226 | -0.27 | -0.194 | -0.467 | 0.35 | -0.288 | 131 |
| 132 | -0.197 | -0.407 | 0.225 | -0.266 | -0.195 | -0.456 | 0.346 | -0.282 | 132 |
| 133 | -0.198 | -0.398 | 0.224 | -0.262 | -0.197 | -0.446 | 0.341 | -0.277 | 133 |
| 134 | -0.2 | -0.39 | 0.223 | -0.259 | -0.198 | -0.435 | 0.336 | -0.271 | 134 |
| 135 | -0.201 | -0.381 | 0.221 | -0.255 | -0.199 | -0.425 | 0.331 | -0.265 | 135 |

| $\alpha = 0.75, \beta = -0.063$ | | | | | $\alpha = -0.75, \beta = 0.063$ | | | | |
|---------------------------------|-------|--------|--------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 6 | 0.785 | -0.052 | -0.029 | -0.04 | 1.657 | -0.346 | 0.244 | -0.01 | 6 |
| 7 | 0.788 | -0.063 | -0.031 | -0.048 | 1.627 | -0.394 | 0.261 | -0.022 | 7 |
| 8 | 0.79 | -0.074 | -0.034 | -0.055 | 1.598 | -0.435 | 0.276 | -0.035 | 8 |
| 9 | 0.791 | -0.086 | -0.036 | -0.062 | 1.571 | -0.47 | 0.288 | -0.046 | 9 |
| 10 | 0.793 | -0.098 | -0.038 | -0.07 | 1.545 | -0.502 | 0.298 | -0.058 | 10 |
| 11 | 0.793 | -0.11 | -0.039 | -0.077 | 1.519 | -0.532 | 0.309 | -0.07 | 11 |
| 12 | 0.794 | -0.122 | -0.04 | -0.084 | 1.494 | -0.559 | 0.319 | -0.081 | 12 |
| 13 | 0.794 | -0.135 | -0.041 | -0.092 | 1.47 | -0.584 | 0.326 | -0.092 | 13 |
| 14 | 0.794 | -0.148 | -0.042 | -0.099 | 1.448 | -0.608 | 0.332 | -0.102 | 14 |
| 15 | 0.793 | -0.161 | -0.042 | -0.106 | 1.425 | -0.632 | 0.338 | -0.114 | 15 |
| 16 | 0.792 | -0.173 | -0.043 | -0.114 | 1.402 | -0.654 | 0.343 | -0.125 | 16 |
| 17 | 0.791 | -0.186 | -0.043 | -0.121 | 1.379 | -0.676 | 0.349 | -0.137 | 17 |
| 18 | 0.789 | -0.199 | -0.042 | -0.128 | 1.356 | -0.697 | 0.354 | -0.148 | 18 |
| 19 | 0.787 | -0.213 | -0.042 | -0.136 | 1.334 | -0.716 | 0.359 | -0.158 | 19 |
| 20 | 0.784 | -0.226 | -0.041 | -0.143 | 1.312 | -0.735 | 0.363 | -0.169 | 20 |
| 21 | 0.782 | -0.239 | -0.04 | -0.15 | 1.29 | -0.753 | 0.367 | -0.179 | 21 |
| 22 | 0.779 | -0.252 | -0.04 | -0.157 | 1.268 | -0.771 | 0.371 | -0.188 | 22 |
| 23 | 0.775 | -0.265 | -0.038 | -0.165 | 1.246 | -0.788 | 0.374 | -0.198 | 23 |
| 24 | 0.772 | -0.277 | -0.037 | -0.172 | 1.224 | -0.804 | 0.377 | -0.207 | 24 |
| 25 | 0.768 | -0.29 | -0.035 | -0.179 | 1.203 | -0.82 | 0.379 | -0.217 | 25 |
| 26 | 0.763 | -0.303 | -0.034 | -0.186 | 1.181 | -0.835 | 0.382 | -0.226 | 26 |
| 27 | 0.759 | -0.316 | -0.032 | -0.193 | 1.16 | -0.85 | 0.384 | -0.235 | 27 |
| 28 | 0.754 | -0.328 | -0.03 | -0.2 | 1.138 | -0.864 | 0.386 | -0.245 | 28 |
| 29 | 0.749 | -0.341 | -0.028 | -0.207 | 1.117 | -0.878 | 0.387 | -0.253 | 29 |
| 30 | 0.743 | -0.353 | -0.025 | -0.213 | 1.095 | -0.891 | 0.389 | -0.262 | 30 |
| 31 | 0.737 | -0.366 | -0.023 | -0.22 | 1.074 | -0.903 | 0.391 | -0.271 | 31 |
| 32 | 0.731 | -0.378 | -0.02 | -0.227 | 1.052 | -0.915 | 0.392 | -0.28 | 32 |
| 33 | 0.725 | -0.39 | -0.018 | -0.233 | 1.031 | -0.927 | 0.393 | -0.288 | 33 |
| 34 | 0.718 | -0.402 | -0.015 | -0.239 | 1.009 | -0.937 | 0.394 | -0.296 | 34 |
| 35 | 0.711 | -0.413 | -0.012 | -0.246 | 0.988 | -0.948 | 0.395 | -0.304 | 35 |
| 36 | 0.704 | -0.425 | -0.009 | -0.252 | 0.967 | -0.958 | 0.396 | -0.312 | 36 |
| 37 | 0.697 | -0.436 | -0.005 | -0.258 | 0.945 | -0.967 | 0.397 | -0.32 | 37 |
| 38 | 0.689 | -0.448 | -0.002 | -0.264 | 0.924 | -0.976 | 0.398 | -0.327 | 38 |
| 39 | 0.681 | -0.459 | 0.001 | -0.27 | 0.903 | -0.984 | 0.399 | -0.334 | 39 |
| 40 | 0.673 | -0.469 | 0.005 | -0.276 | 0.882 | -0.992 | 0.4 | -0.342 | 40 |

| $\alpha = 0.75, \beta = -0.063$ | | | | | $\alpha = -0.75, \beta = 0.063$ | | | | |
|---------------------------------|-------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 41 | 0.665 | -0.48 | 0.009 | -0.282 | 0.86 | -0.999 | 0.4 | -0.348 | 41 |
| 42 | 0.656 | -0.491 | 0.013 | -0.287 | 0.839 | -1.006 | 0.401 | -0.355 | 42 |
| 43 | 0.647 | -0.501 | 0.017 | -0.293 | 0.819 | -1.012 | 0.402 | -0.362 | 43 |
| 44 | 0.638 | -0.511 | 0.021 | -0.298 | 0.798 | -1.018 | 0.402 | -0.368 | 44 |
| 45 | 0.629 | -0.521 | 0.025 | -0.303 | 0.777 | -1.023 | 0.402 | -0.374 | 45 |
| 46 | 0.62 | -0.53 | 0.029 | -0.308 | 0.756 | -1.028 | 0.403 | -0.38 | 46 |
| 47 | 0.61 | -0.54 | 0.033 | -0.313 | 0.736 | -1.032 | 0.403 | -0.386 | 47 |
| 48 | 0.6 | -0.549 | 0.037 | -0.318 | 0.716 | -1.036 | 0.403 | -0.391 | 48 |
| 49 | 0.591 | -0.558 | 0.042 | -0.323 | 0.695 | -1.04 | 0.404 | -0.397 | 49 |
| 50 | 0.58 | -0.566 | 0.046 | -0.328 | 0.675 | -1.043 | 0.404 | -0.402 | 50 |
| 51 | 0.57 | -0.575 | 0.051 | -0.332 | 0.655 | -1.046 | 0.404 | -0.407 | 51 |
| 52 | 0.56 | -0.583 | 0.056 | -0.337 | 0.635 | -1.048 | 0.404 | -0.411 | 52 |
| 53 | 0.549 | -0.591 | 0.06 | -0.341 | 0.616 | -1.05 | 0.404 | -0.416 | 53 |
| 54 | 0.538 | -0.598 | 0.065 | -0.345 | 0.596 | -1.051 | 0.404 | -0.42 | 54 |
| 55 | 0.527 | -0.606 | 0.07 | -0.349 | 0.577 | -1.052 | 0.404 | -0.424 | 55 |
| 56 | 0.516 | -0.613 | 0.074 | -0.353 | 0.558 | -1.053 | 0.404 | -0.428 | 56 |
| 57 | 0.505 | -0.62 | 0.079 | -0.356 | 0.539 | -1.053 | 0.404 | -0.432 | 57 |
| 58 | 0.494 | -0.626 | 0.084 | -0.36 | 0.52 | -1.053 | 0.404 | -0.435 | 58 |
| 59 | 0.483 | -0.633 | 0.089 | -0.363 | 0.501 | -1.052 | 0.404 | -0.439 | 59 |
| 60 | 0.471 | -0.639 | 0.094 | -0.366 | 0.483 | -1.051 | 0.404 | -0.442 | 60 |
| 61 | 0.46 | -0.644 | 0.099 | -0.369 | 0.464 | -1.05 | 0.404 | -0.445 | 61 |
| 62 | 0.448 | -0.65 | 0.104 | -0.373 | 0.446 | -1.049 | 0.404 | -0.448 | 62 |
| 63 | 0.436 | -0.655 | 0.109 | -0.375 | 0.429 | -1.047 | 0.404 | -0.45 | 63 |
| 64 | 0.424 | -0.66 | 0.114 | -0.378 | 0.411 | -1.045 | 0.404 | -0.452 | 64 |
| 65 | 0.413 | -0.665 | 0.119 | -0.38 | 0.393 | -1.042 | 0.403 | -0.455 | 65 |
| 66 | 0.401 | -0.669 | 0.124 | -0.383 | 0.376 | -1.039 | 0.403 | -0.457 | 66 |
| 67 | 0.389 | -0.673 | 0.129 | -0.385 | 0.359 | -1.036 | 0.403 | -0.458 | 67 |
| 68 | 0.377 | -0.677 | 0.134 | -0.387 | 0.342 | -1.033 | 0.403 | -0.46 | 68 |
| 69 | 0.365 | -0.68 | 0.139 | -0.389 | 0.326 | -1.029 | 0.403 | -0.461 | 69 |
| 70 | 0.353 | -0.684 | 0.144 | -0.391 | 0.31 | -1.025 | 0.402 | -0.463 | 70 |
| 71 | 0.341 | -0.687 | 0.149 | -0.393 | 0.293 | -1.021 | 0.402 | -0.464 | 71 |
| 72 | 0.329 | -0.689 | 0.154 | -0.394 | 0.277 | -1.016 | 0.402 | -0.465 | 72 |
| 73 | 0.317 | -0.692 | 0.158 | -0.395 | 0.262 | -1.011 | 0.401 | -0.465 | 73 |
| 74 | 0.305 | -0.694 | 0.163 | -0.396 | 0.246 | -1.006 | 0.401 | -0.466 | 74 |
| 75 | 0.293 | -0.696 | 0.168 | -0.398 | 0.231 | -1.001 | 0.401 | -0.466 | 75 |

| $\alpha = 0.75, \beta = -0.063$ | | | | | $\alpha = -0.75, \beta = 0.063$ | | | | |
|---------------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 76 | 0.281 | -0.697 | 0.173 | -0.399 | 0.216 | -0.995 | 0.4 | -0.467 | 76 |
| 77 | 0.269 | -0.698 | 0.178 | -0.399 | 0.202 | -0.989 | 0.4 | -0.467 | 77 |
| 78 | 0.257 | -0.699 | 0.182 | -0.4 | 0.187 | -0.983 | 0.4 | -0.467 | 78 |
| 79 | 0.245 | -0.7 | 0.187 | -0.4 | 0.173 | -0.977 | 0.399 | -0.466 | 79 |
| 80 | 0.233 | -0.7 | 0.191 | -0.401 | 0.159 | -0.97 | 0.399 | -0.466 | 80 |
| 81 | 0.221 | -0.7 | 0.196 | -0.401 | 0.145 | -0.964 | 0.398 | -0.465 | 81 |
| 82 | 0.21 | -0.7 | 0.2 | -0.401 | 0.132 | -0.957 | 0.398 | -0.465 | 82 |
| 83 | 0.198 | -0.7 | 0.205 | -0.401 | 0.118 | -0.95 | 0.397 | -0.464 | 83 |
| 84 | 0.186 | -0.699 | 0.209 | -0.401 | 0.105 | -0.942 | 0.396 | -0.463 | 84 |
| 85 | 0.175 | -0.698 | 0.213 | -0.401 | 0.092 | -0.935 | 0.396 | -0.462 | 85 |
| 86 | 0.163 | -0.697 | 0.217 | -0.4 | 0.08 | -0.927 | 0.395 | -0.46 | 86 |
| 87 | 0.152 | -0.695 | 0.221 | -0.399 | 0.068 | -0.919 | 0.394 | -0.459 | 87 |
| 88 | 0.141 | -0.694 | 0.225 | -0.399 | 0.056 | -0.911 | 0.394 | -0.457 | 88 |
| 89 | 0.13 | -0.692 | 0.229 | -0.398 | 0.044 | -0.903 | 0.393 | -0.456 | 89 |
| 90 | 0.119 | -0.69 | 0.233 | -0.397 | 0.032 | -0.894 | 0.392 | -0.454 | 90 |
| 91 | 0.108 | -0.687 | 0.236 | -0.396 | 0.021 | -0.886 | 0.391 | -0.452 | 91 |
| 92 | 0.097 | -0.684 | 0.24 | -0.394 | 0.01 | -0.877 | 0.39 | -0.45 | 92 |
| 93 | 0.087 | -0.681 | 0.243 | -0.393 | -0.001 | -0.868 | 0.39 | -0.448 | 93 |
| 94 | 0.076 | -0.678 | 0.247 | -0.392 | -0.011 | -0.859 | 0.389 | -0.445 | 94 |
| 95 | 0.066 | -0.675 | 0.25 | -0.39 | -0.021 | -0.85 | 0.388 | -0.443 | 95 |
| 96 | 0.056 | -0.671 | 0.253 | -0.389 | -0.031 | -0.841 | 0.386 | -0.44 | 96 |
| 97 | 0.046 | -0.667 | 0.256 | -0.387 | -0.041 | -0.831 | 0.385 | -0.438 | 97 |
| 98 | 0.036 | -0.663 | 0.259 | -0.385 | -0.051 | -0.822 | 0.384 | -0.435 | 98 |
| 99 | 0.026 | -0.659 | 0.262 | -0.383 | -0.06 | -0.812 | 0.383 | -0.432 | 99 |
| 100 | 0.017 | -0.654 | 0.265 | -0.381 | -0.069 | -0.803 | 0.382 | -0.429 | 100 |
| 101 | 0.007 | -0.649 | 0.267 | -0.379 | -0.077 | -0.793 | 0.38 | -0.426 | 101 |
| 102 | -0.002 | -0.644 | 0.27 | -0.376 | -0.086 | -0.783 | 0.379 | -0.423 | 102 |
| 103 | -0.011 | -0.639 | 0.272 | -0.374 | -0.094 | -0.773 | 0.377 | -0.42 | 103 |
| 104 | -0.02 | -0.634 | 0.274 | -0.371 | -0.102 | -0.762 | 0.376 | -0.416 | 104 |
| 105 | -0.028 | -0.628 | 0.276 | -0.369 | -0.11 | -0.752 | 0.374 | -0.413 | 105 |
| 106 | -0.037 | -0.622 | 0.278 | -0.366 | -0.117 | -0.742 | 0.373 | -0.409 | 106 |
| 107 | -0.045 | -0.617 | 0.28 | -0.363 | -0.124 | -0.732 | 0.371 | -0.406 | 107 |
| 108 | -0.053 | -0.611 | 0.281 | -0.36 | -0.131 | -0.721 | 0.369 | -0.402 | 108 |
| 109 | -0.061 | -0.604 | 0.283 | -0.357 | -0.138 | -0.711 | 0.367 | -0.398 | 109 |
| 110 | -0.068 | -0.598 | 0.284 | -0.354 | -0.144 | -0.7 | 0.365 | -0.394 | 110 |

| $\alpha = 0.75, \beta = -0.063$ | | | | | $\alpha = -0.75, \beta = 0.063$ | | | | |
|---------------------------------|--------|--------|-------|--------|---------------------------------|--------|-------|--------|----------|
| ω | c_R | c_I | d_R | d_I | c_R | c_I | d_R | d_I | ω |
| 111 | -0.076 | -0.591 | 0.286 | -0.351 | -0.15 | -0.689 | 0.363 | -0.39 | 111 |
| 112 | -0.083 | -0.584 | 0.287 | -0.348 | -0.156 | -0.679 | 0.361 | -0.386 | 112 |
| 113 | -0.09 | -0.578 | 0.288 | -0.345 | -0.162 | -0.668 | 0.359 | -0.382 | 113 |
| 114 | -0.097 | -0.571 | 0.288 | -0.341 | -0.167 | -0.657 | 0.357 | -0.378 | 114 |
| 115 | -0.103 | -0.563 | 0.289 | -0.338 | -0.172 | -0.646 | 0.355 | -0.374 | 115 |
| 116 | -0.11 | -0.556 | 0.29 | -0.334 | -0.177 | -0.635 | 0.352 | -0.369 | 116 |
| 117 | -0.116 | -0.549 | 0.29 | -0.331 | -0.182 | -0.624 | 0.35 | -0.365 | 117 |
| 118 | -0.121 | -0.541 | 0.29 | -0.327 | -0.186 | -0.613 | 0.348 | -0.36 | 118 |
| 119 | -0.127 | -0.533 | 0.29 | -0.323 | -0.19 | -0.602 | 0.345 | -0.356 | 119 |
| 120 | -0.132 | -0.526 | 0.29 | -0.319 | -0.194 | -0.591 | 0.342 | -0.351 | 120 |
| 121 | -0.138 | -0.518 | 0.29 | -0.316 | -0.198 | -0.581 | 0.34 | -0.347 | 121 |
| 122 | -0.142 | -0.51 | 0.289 | -0.312 | -0.201 | -0.57 | 0.337 | -0.342 | 122 |
| 123 | -0.147 | -0.502 | 0.289 | -0.308 | -0.204 | -0.559 | 0.334 | -0.337 | 123 |
| 124 | -0.152 | -0.494 | 0.288 | -0.304 | -0.207 | -0.548 | 0.331 | -0.332 | 124 |
| 125 | -0.156 | -0.485 | 0.287 | -0.3 | -0.21 | -0.537 | 0.328 | -0.328 | 125 |
| 126 | -0.16 | -0.477 | 0.286 | -0.296 | -0.213 | -0.526 | 0.325 | -0.323 | 126 |
| 127 | -0.164 | -0.469 | 0.285 | -0.291 | -0.215 | -0.515 | 0.322 | -0.318 | 127 |
| 128 | -0.167 | -0.46 | 0.284 | -0.287 | -0.217 | -0.504 | 0.318 | -0.313 | 128 |
| 129 | -0.17 | -0.452 | 0.283 | -0.283 | -0.219 | -0.493 | 0.315 | -0.308 | 129 |
| 130 | -0.173 | -0.443 | 0.281 | -0.279 | -0.22 | -0.482 | 0.311 | -0.303 | 130 |
| 131 | -0.176 | -0.435 | 0.279 | -0.274 | -0.222 | -0.471 | 0.308 | -0.297 | 131 |
| 132 | -0.179 | -0.426 | 0.277 | -0.27 | -0.223 | -0.46 | 0.304 | -0.292 | 132 |
| 133 | -0.181 | -0.417 | 0.275 | -0.266 | -0.224 | -0.45 | 0.3 | -0.287 | 133 |
| 134 | -0.183 | -0.409 | 0.273 | -0.261 | -0.225 | -0.439 | 0.296 | -0.281 | 134 |
| 135 | -0.185 | -0.4 | 0.27 | -0.257 | -0.225 | -0.428 | 0.292 | -0.276 | 135 |